TRANSPORTATION

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APRIL 1, 1933

Railway Age

FOUNDED IN 1856

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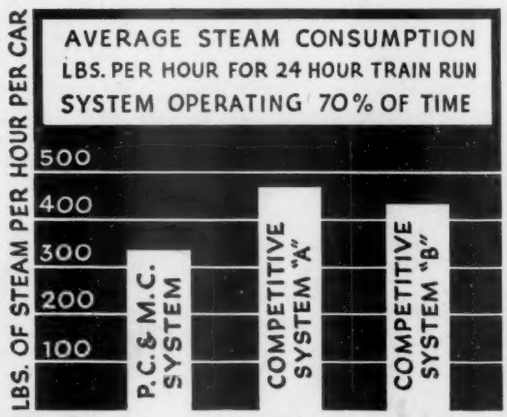
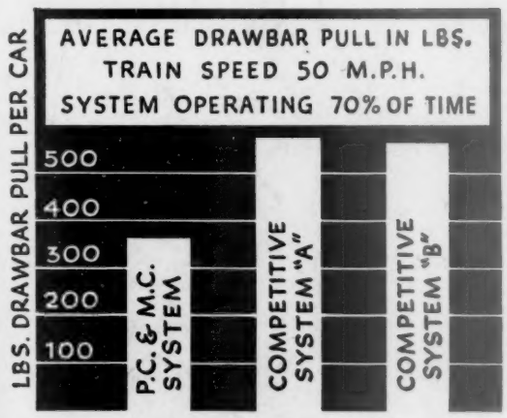


This chart shows the steam consumption, in pounds per hour, over the entire 24-hour train run, by each of the three systems.



This chart shows the average drawbar pull, in pounds, of all three systems, at train speed of fifty miles per hour.

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Vol. 94 April 1, 1933 No. 13

In This Issue

Unusual Designs Are Used for Concrete Bridges ..... Page 478

Tells of rigid-frame structures, the splicing of concrete piles and the use of transit mixers which were features of large line and grade-revision project on Missouri Pacific.

Air Conditioning Operating Costs 471

A. R. Walker, electrical engineer of equipment, Illinois Central, discusses tests made by that road which indicate that expense is justified by an increase in traffic of one-half passenger per car per day.

Pullman Builds 70-Ton Hopper Car With Cast-Steel Underframe 472

A description of this car which, with its Commonwealth bed frame, conforms to A R. A. requirements and which was designed for high capacity per unit weight and maximum corrosion resistance.

EDITORIALS

Regional Railroad Consolidations 465
Experimenting With Lower Fares 467

GENERAL ARTICLES

Unusual Designs Are Used for Concrete Bridges 468
Air Conditioning Operating Costs, by A. R. Walker 471
Pullman Builds 70-Ton Hopper Car With Cast-Steel Underframe 472
Remote Control Switch Replaces Interlocker on Missouri Pacific 475
Freight Car Loading 476
Co-ordinated Air-Rail Express Brings Fast Service to Entire Country 477
Federal Railroad Co-ordinator Planned 479

BOOKS AND LETTERS 480

ODDS AND ENDS 482

NEWS 483

OPERATING STATISTICS OF LARGE STEAM RAILWAYS 486

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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RAILWAY AGE

Regional Railroad Consolidations

The termination of the general banking moratorium under federal legislation to protect sound banks from withdrawals of money for hoarding, and the passage of new currency legislation, of the government "economy" bill and of the "beer" bill, were immediately followed by advances in security and commodity prices and other evidences of reviving business confidence and activity. Subsequent proposals and rumors of contemplated proposals from the White House, such as for farm relief legislation, for the issuance of several billions of dollars of government bonds to aid debtors or creditors, to carry on public works, and to give other forms of "relief," and for reorganization of the railroads, have not been so well received. The reports regarding contemplated government action dealing with the railroad problem include a project for effecting consolidations into seven or eight huge regional systems, and thereby eliminating duplications of lines and service, whereby, as is estimated, savings in annual operating expenses of as much as $750,000,000, as compared with those of 1932, could be made.

Permanent Reorganization Because of an Emergency?

Attempts to deal with major economic problems in emergencies by important but hastily conceived measures are always fraught with the danger that the results will be widely different from those anticipated. Two weeks after government operation was adopted during the war, W. G. McAdoo, director general of railroads, in testifying before a Congressional committee, forecasted that no advance in railway rates would be necessary, expressing the expectation that, while there would be increases in operating costs, there would also be large economies because of government unified operation, and that "one hand would wash the other." Five months later he made advances in rates of one billion dollars annually, and, in spite of them, the government, in its two years of railway operation, incurred a very large deficit. Late in 1929 President Hoover, as means of maintaining business, influenced the major industries of the country to adopt the hastily improvised policies of going forward with large capital expenditures and of maintaining wages. The acceptance by railway leaders of these policies is among the principal reasons why the railroad industry is virtually bankrupt and has been depending for more than a year upon government loans to avoid numerous railroad receiverships.

The nation has had a railroad problem for many years to the solution of which government action of various kinds has been deemed necessary. Sometimes one kind of action has been advocated as necessary for shippers, sometimes another as necessary for employees, sometimes another as necessary for security owners and sometimes another as necessary for the general public. Plainly, government action at any and all times should be dictated solely by consideration of the public interest, to which the interest of shippers in good and adequate service and reasonable and nondiscriminatory rates, of employees in fair wages and working conditions, or of security owners in the protection of their investment, should always be subordinated. All three of these groups are suffering from the effects of the present railway situation—shippers and passengers because of declines of their prices and incomes relatively greater than the decline in railway rates; employees from the decline of employment; security owners from the decline of net operating income, which has almost wiped out dividends on stock, and has made it impossible for most railway companies to earn even interest on their bonds.

There has been much talk in the past to the effect that railway operating expenses have been made unnecessarily high by excessive competition between the railways. The *Railway Age* many times has emphasized various kinds of competition tending both to make expenses unnecessarily high and to reduce rates and earnings. Financial powers in New York and elsewhere could have used their influence in the years of prosperity to have reduced competitive rivalries, but did not do so as long as income was sufficient to pay interest and increase dividends. Now that there is no longer enough income even to meet interest, heads of life insurance companies and other fiduciary institutions with large investments in railway bonds appear suddenly to have concluded that consolidation of the railways into a small number of large regional systems should be effected immediately because, as they believe, this will make possible sufficient economies to earn interest and something more. The present financial condition of

the railways obviously is due mainly to declines of traffic and earnings caused by the depression. Unless we are to consider the depression permanent, we must assume that the decline of traffic and earnings is temporary. What the railway emergency seems to demand, therefore, is measures to deal with a temporary emergency, rather than measures for the complete and permanent reorganization of the railways that may disregard what kind of railways, railway management and railway service the public will need or want after the emergency has passed.

Regional Operation Under Government Control

The *Railway Age* always has known that strong arguments could be made for consolidating the railways into a small number of regional systems—that, in fact, the arguments for this policy were much stronger than the arguments for consolidation into a limited number of competing systems, as provided in the Transportation act. The editor of this paper in 1918, immediately after the adoption of government operation, in a book entitled "The Regulation of Railways" (pp. 324-333) outlined and presented the arguments for a plan of regional consolidations. It had been made plain before then and has been made plainer since, that, whatever the advantages of competition between the railways, it also has great disadvantages. Developments under and subsequent to government operation indicated, however, that the American people, and especially shippers, wanted and were determined to have competition between railways. The principal reason why government operation proved to be so unpopular was that by eliminating competition, it made it impossible for big commercial centers and shippers to play off one railway against another in seeking concessions as to rates and service and in influencing railway purchases. Furthermore, under the regional system of operation adopted by the government there occurred, not reductions, but very large increases of operating expenses. The amount of traffic handled in 1916 under private competitive operation was about the same as in 1919 under government regional operation, but the number of railway employees in 1919 was almost 300,000 greater than in 1916, and operating expenses were more than $2,000,000,000 greater. The effects of the elimination of competition under government regional operation, the increase of operating expenses and the large deficits incurred, killed all sentiment, not only for government operation, but also for noncompetitive operation.

Operating Expenses Under Regional and Competitive Operation

As regional consolidations, and the virtual destruction of competitive operation for which they are intended, are now being advocated solely to reduce operating expenses, it is worth while to recall the changes in operating expenses that have occurred since private competitive operation was restored. In 1920, the first year after the restoration of private competitive operation, when prices and wages were much higher than in 1919 under government operation, the operating expenses of the Class I railways were $5,830,000,000. In 1929 they were $4,561,000,000; in 1930, $3,976,000,000, and in 1932, $2,430,000,000. In other words, they were $1,269,000,000 less in 1929, $1,854,000,000 less in 1930 and $3,500,000,000 less in 1932, than they were in 1920. They were also about $425,000,000 less in 1930 and almost $2,000,000,000 less in 1932 under private competitive operation than they were in 1919 under government regional operation.

These figures indicate what can and actually has been done under both government regional operation and private competitive operation. The mere figures do not, however, tell the whole story. Under government regional operation there were large increases in the prices of materials and in wages and reductions of the working hours of employees. Under private competitive operation since the war there have been both increases and reductions of prices and wages. However, the wages paid ever since the abandonment of government operation have been, and they still are, higher than those paid under government operation. Reductions of payroll under private competitive operation have been due to reductions of employees, the number of which, in 1929, was about 220,000 less, in 1930 about 400,000 less, and in 1932 about 900,000 less, than in 1919.

These figures very conclusively demonstrate that government regional operation, and the complete elimination of competition which it involved, fell far short of causing economies sufficient to offset the effects of advances in prices and wages and of reductions of the working hours of employees. They demonstrate with equal conclusiveness that private competitive management and operation during the last eleven years has, in years of both prosperity and depression, effected economies in operation which have far more than offset the increases in operating expenses caused by the revival of railway competition. The advocates of consolidation of the railways into seven or eight regional systems, and of elimination of duplications in facilities and service due to past and present competition, estimate, as already indicated, that thereby savings could be effected which would make operating expenses about $750,000,000 a year less than they were in 1932. As operating expenses in 1932 were $2,430,000,000, this estimated reduction would make them only $1,680,000,000, or about 60 per cent less than they were under either government regional noncompetitive operation in 1919 or private competitive operation in 1929, and the smallest they have been since 1906, when freight business was somewhat smaller than in 1932 and the average hourly wage of employees was not half as high.

The *Railway Age* has not had access to the detailed statistics upon which this estimate of possible savings in operating expenses has been based, but it has analyzed railway statistics for years, including many made to show the savings that could be effected by unified government operation and by consolidations, regional and otherwise, and unless the estimate referred

to includes a large reduction of wages this paper takes the liberty of believing that it is the product of heated imaginations, and not of minds working coolly for the purpose of developing a practicable policy.

Can Railway Systems Be Made Too Big?

Regional operation has been shown by experience not to have all the advantages that have been claimed for it. It cannot haul a ton of freight in a train or maintain a mile of track or a locomotive any cheaper than competitive operation, and all the major railway economies have been effected by reducing the cost of hauling a ton of freight in a train and by reducing maintenance costs. Regional operation can make reductions of line and other facilities and of train service that competitive operation cannot or will not make; but the experience of the British railways under "amalgamation" has shown that intense competition cannot be eliminated as long as two or more railways serve two or more of the same communities. Will the people of the country, and especially the shippers, as readily acquiesce in reductions or elimination of competitive railway service as the proponents of the regional plan apparently believe? Then there remains a question of great importance which only experience can answer and which experience may not answer satisfactorily—namely, cannot railway systems, regional or otherwise, be made so large that no single organization can manage and operate them efficiently and satisfactorily? The average miles of line of seven regional systems would be more than 35,000 miles, and some of the projected systems would have more than 50,000 miles. The success with which "big business" has been managed within recent years has not been so great as to encourage the belief that the bigger we make railroad systems, or business units of any other kind, the more foresightedly, efficiently and economically they will be managed.

Legislation to consolidate all the railways of the United States into a few regional systems, based upon the assumption that thereby vast economies would be effected, would be an extremely interesting experiment, but it would be an experiment, and while its results may seem certain to those who only recently have engaged in the study of railroad problems, aided principally by the hasty assembling of large quantities of stimulating statistics, it would be regarded with much more doubt by many who have studied railroad problems much longer and more broadly.

Experimenting With Lower Fares

Several of the Southeastern roads are undertaking an experiment which should be followed with the closest attention. We refer to the application of a reduction in standard rates of fare to 2 cents a mile in coaches, 3 cents a mile in Pullmans and the abolition of the surcharge for Pullman travel.

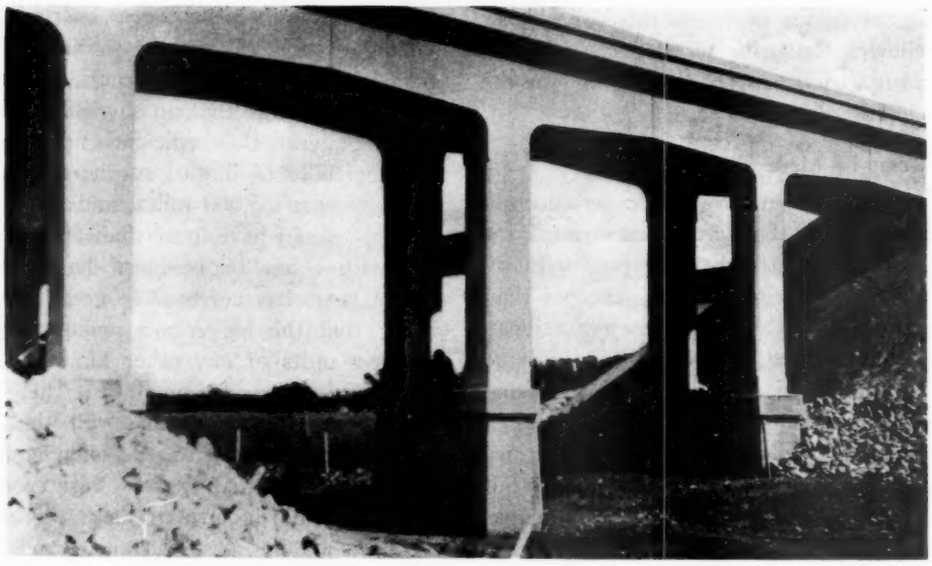
Numerous experiments have already been made—and are being made now—with lower rates, with varying degrees of success. One characteristic of most of these experiments, however, which in our opinion frequently makes the results obtained inconclusive, is the complexity of conditions which surround them and the consequent difficulty of impressing the services offered on the minds of the public.

The prospective passenger may be vaguely interested when he sees this or that special rate advertised, "good going on all trains after 12 noon, January 16, and returning on all trains not later than, etc.," or similar information. At the time when he is in a position to decide to make the journey, however, these limitations have escaped him; he does not remember whether the reduced rates are available with Pullman accommodations; perhaps he has forgotten even the basis of the special rate itself. Is there any real hope for making a sale to this "prospect"?

Now, by contrast, consider a rate which, while attractively low, is at the same time so simple that it can readily be impressed on the minds of the public. No restrictions, no ifs, ands and buts, no dates to remember—simply 2 cents in coaches and 3 cents in Pullmans. Adequately advertised and constantly repeated, the message should be indelibly impressed upon practically the whole population of the territory. Low rates available on a broad and uniform basis work as a sales force within the minds of the public twenty-four hours a day. Special rates and excursion offers, by contrast, can usually effect sales only during the fleeting seconds when advertisements catch the eyes of "prospects."

We do not belittle the excursion and other special rates. On the contrary, we are glad to see that they are being ever more widely extended. But we do believe, and have believed for a long time, that a thoroughgoing experiment with lower standard rates is badly needed. We hope that the roads engaging in this experiment will make sure that it does not fail for lack of publicity. These rates should be advertised and readvertised by every effective medium. Employees who are fostering the "ship by rail" movement should be encouraged to promote "travel by rail" as well, emphasizing its economy at the new rates.

It is often pointed out by opponents of reduced rates that an increase in passenger-miles of 80 per cent is needed to balance a reduction from 3.6 cents to 2 cents in the basic rate. This is true, but it is unimportant. What is important is to stop the downward *trend* in passenger business and start it upward. The man with an annual income of $50,000 which is declining at the rate of $5,000 a year will soon be poor, whereas the man with an income of $5,000, which is *increasing* at $5,000 a year, will eventually be rich. It is precisely the same with passenger traffic. The possibility exists that there may be a rate which will effect this change in trend, and we are glad to see that efforts are being made to discover it.



Pleasing Appearance and Low Unit Cost Were Features of This Unusual Rigid-Frame Design

Unusual Designs Are Used for Concrete Bridges

Rigid-frame structures, the splicing of concrete piles and the use of transit mixers were features of large line and grade-revision project on Missouri Pacific

RIGID-FRAME abutments, continuous concrete trestles, concrete pile piers under steel spans, concrete floor slabs on creosoted-timber overhead highway bridges and the splicing of concrete piles were some of the interesting features of design and construction developed by the Missouri Pacific in connection with the extensive line and grade revision program which it completed recently on its Central Kansas division. This project, which was described in the *Railway Age* for February 11, involved 225 miles of line between Osawatomie, Kan., and Hoisington, and was completed at a cost of approximately $6,500,000. With few exceptions, however, the bridges which are to be described are located on the 35-mile section between Delavan and Gypsum City. While many concrete piers, abutments and box culverts of the usual designs were built on the remainder of the project, the fact that 10,000 cu. yd. of concrete was required for the structures on this relatively short section of the line is an indication of their number and importance. The fact that there was a marked departure from conventional lines in their design makes them of special interest.

Concrete Pile Piers Carry Many Steel Spans

Between Delavan and Gypsum City, with the exception of two creosoted pile, ballast-deck trestles, all bridges that carry tracks are of permanent construction. These bridges are of concrete throughout, except where the required length of individual spans made this form of construction impracticable, in which event either I-beam spans or plate girders were installed, depending on the width of the opening. In all structures where steel spans were required, it was found to be more economical to use concrete trestle approaches, with piers supporting the steel spans, than to build the usual type of gravity abutments. Concrete ballast decks were constructed on some of the steel spans, but in the main, open-decks with creosoted ties were installed. Provision was made, however, for the future installation of ballast decks without disturbing the grade of the tracks. Reinforced concrete was used in the construction of the more important culverts, while galvanized metal pipe was installed at the smaller waterways.

In the lower bridges, the steel spans were supported on concrete-pile piers, although it was necessary to carry some of the longer spans of this type on solid or open-frame concrete piers. On the end piers which support these longer spans, open-type concrete bents were erected above the bridge seats to support the ends of the ad-

jacent slab spans of the concrete trestle approaches. These bents not only present a pleasing appearance, but they also facilitate the inspection of the girders, the bridge seats and the bearings.

Concrete trestles up to 25 ft. high, either as complete bridges or as approaches to steel spans, of the usual basic design, but differing in many of their details, comprise the greater number of the bridges in this section. At a number of grade separations, the track was carried over the highway on a steel span with concrete trestle approaches of this type.

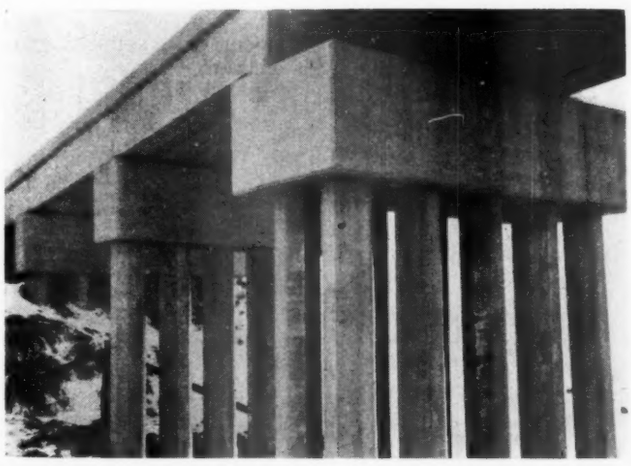
Concrete Piles Were Spliced

Six piles, 16 in. in diameter, comprise a concrete-trestle bent. The outer piles in bridges 18 ft. or more in height are driven on a batter, while the four interior piles in these bents, and all of those in bridges less than 18 ft. high, are driven vertical. The ends of the piles project about 12 in. into the caps, and on trestles having a height of 20 ft. or more, a concrete collar is cast around the bent at the ground line to increase its rigidity. Bents supporting the steel spans contain 10 piles in a double row of five, all of which are driven vertical. Piles up to 55 ft. long were driven and penetrations up to 40 ft. were secured, depending on the character of the soil.

A feature of special interest in connection with the concrete-trestle construction was the splicing of some of the piles in the field. When the driving was started for the concrete-trestle approaches to the steel spans at Lyons creek, three miles west of Herington, it was found that greater penetration was required than had been indicated by the test piles which had been driven previously, and that longer piles than had been provided would be necessary. To avoid the delay incidental to manufacturing and curing the longer piles, it was decided to splice those that were on hand. To do this, the piles were driven to the proper penetration, and 30 in. of the reinforcing at the top was exposed, which was then spliced and pile forms were clamped in position and filled. This method was successful and saved approximately 30 days in the time of constructing the bridge.

Rigid-Frame Concrete Structures Were Designed

At the crossing of a ravine east of Hope, in the section between Delavan and Gypsum City, a thick deposit of shale six feet below the surface of the ground precluded the driving of piles. For this location a rigid-frame structure having four 27-ft. spans was designed. This unusual bridge has open-type column bents, the end



Combination Steel Span and Concrete Approach at a Grade Separation

Concrete Bents on Piers Support Concrete Deck Slabs

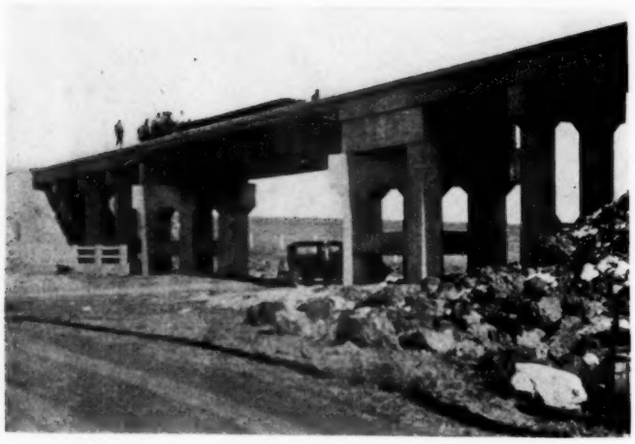
bents being provided with special construction joints at the tops of the piers to permit a slight rotation on the piers, thereby compensating for expansion in the continuous slab. Above the footings, the piers consist of mass sections to an elevation of about 8 ft. above the surface of the ground, while open-frame bents about 18 ft. high extend above the piers. This design, with its relatively simple form work, the lighter floor slab permitted by the continuous construction and its open-type bents and abutments, demonstrated marked economy. Three structures of similar design, but having three, four and five spans, respectively, were built near Bushong on the new line through the flint hills. The structure having five spans has an expansion joint at the middle of the center span.

Another structure deserves special mention because the principle of rigid frames was also applied in designing the end supports for a skewed deck-girder span. The line diversion between Delavan and Herington crosses an important and heavily traveled trunk-line state highway at an angle of 30 deg. At this point an undercrossing was constructed with deck plate girders, 69 ft. 6 in. long, spanning the roadway, and four concrete-slab approach spans, of 17 ft. 6 in. clear length, at each end. The slabs are supported on open-type framed concrete bents which rest on shale foundations. To overcome the skew which otherwise would have been necessary in the concrete approach slabs, open-type, rigid-frame triangular piers were constructed to support the skewed girder span and the adjacent approach slabs.

A New Type of Overhead Bridge

A new design for overhead highway bridges, developed during the last few years by the highway departments in western and southern states, was used on this project in the separation of grades at a number of secondary roads. These structures have wooden bents with posts made from creosoted piles, the bents being supported on continuous pedestals or low concrete piers. Creosoted-wood stringers support a reinforced concrete floor slab, 6½ in. thick, and a curb which is cast integrally with the slab, and above which there is a concrete-post and iron-pipe protection railing. The bulkheads are of creosoted timbers, but on each side of the structure, at the ends, the curb and slab are extended and flared out in the form of a cantilevered beam over the top of the bulkhead.

Few of the highways where this construction was used carry sufficient traffic to warrant permanent struc-



Rigid-Frame Piers Carry Long Skew Span

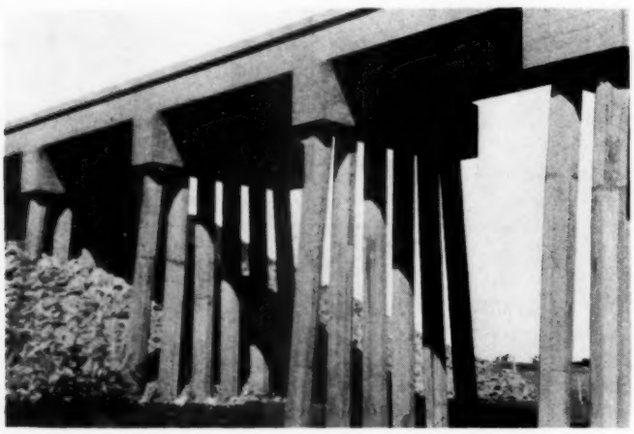
tures. Yet, in most instances, the volume of traffic is of sufficient magnitude to make a wooden floor undesirable and uneconomical.

Other Structures

Between Delavan and Gypsum City, and elsewhere on the project, galvanized corrugated pipe up to 48 in. in diameter was used for the smaller waterways, through farm crossings and at the few public crossings where the grades were not separated. At the more important waterways, concrete boxes from 4 ft. by 4 ft. to 8 ft. by 10 ft. were installed, some of which were twin spans. As this line passes through a cattle-raising country, numerous cattle passes were required in addition to the openings which serve as waterways. These structures were 9 ft. by 9 ft. in open area.

Owing to the magnitude of the stock-raising industry in this territory, fencing is an item of considerable importance. Concrete fence posts were used over the entire project, except for corner and brace posts which are of creosoted timber. The fencing is held in place by means of wire ties which pass through the posts. The setting of the posts presented some difficulty in certain sections owing to the proximity of rock to the surface. As an example of this difficulty, between Allen and Council Grove, in the flint hills, about 30 per cent of the holes required blasting.

Between Allen and Council Grove, 17 miles, which includes the section through the flint hills, the concrete culverts were more numerous and of larger average size than on other sections of the project, while there were several important bridges. On this work all of the concrete for bridges and culverts was distributed from a central proportioning plant. The materials were proportioned by weight from ground storage stock piles and moved to the point of delivery in transit mixers, the longest haul being about 10 miles. The trucks which carried the mixers also carried water tanks, so that the water could be introduced and the mixing started at such time en route as to insure a minimum of 1½ min. of mixing before making the delivery of the concrete. On the return trip, the mixers were partly filled with water and rotated to wash them clean before they were again charged.



These Piles Were Spliced After Driving

As all of this concrete was placed during the winter, the materials were heated in the stock piles by steam, the water was heated and the transit mixers were closed tight to protect the concrete from low temperatures. The concrete in the structures was protected by means of canvas shelters and was heated with salamanders. Only once, during January, 1930, was the placing of concrete suspended because of low temperatures. In this case, there was a suspension for three weeks because of a cold wave, in which the thermometer registered temperatures ranging from 10 to 20 deg. below zero.

All of the concrete piles used on this project east of Council Grove were manufactured in the concrete-casting yard of this road at Little Rock, Ark., but, because of the large number required, the piling for the bridges between Delavan and Gypsum City were precast and cured at two central points on the project. All of the concrete placed in the field on this latter section and west of Marquette was made with washed Arkansas River gravel, graded to a fineness modulus of from 3.61 to 4.01. Nine sacks of cement to the cubic yard was used with the Arkansas River aggregate for all of the concrete entering into the structures, except for a minor amount of plain concrete in footings, where eight sacks to the cubic yard was considered sufficient. Carthage stone and Kaw River sand were used as aggregates in the concrete on the other parts of the grade revision.

Creosoted Deck on a Creosoted-Timber Overhead Crossing

The entire project was planned and executed under the direction of the late E. A. Hadley, chief engineer, and S. L. Wonson, assistant chief engineer. C. S. Sample, construction engineer, developed the plans and was in charge of the construction of the entire project. F. E. Bates, bridge engineer, designed the structures and supervised their construction.

FOR TWO YEARS THE TRANS-ANDINE RAILWAY WILL BE OPERATED IN INDEPENDENT SECTIONS, to be known as the Argentine Trans-Andine and the Chilean Trans-Andine, according to recent reports received by the United States Department of Commerce. The railroad will accept Chilean pesos only for hauls through Chilean territory and likewise business in Argentina will be transacted with Argentine pesos.

Air Conditioning Operating Costs*

Illinois Central tests indicate expense is justified by an increase in traffic of one-half passenger per car per day

By A. R. Walker
Electrical Engineer of Equipment, Illinois Central

TESTS conducted last summer on air conditioning cars on the Illinois Central show the necessity for careful consideration of the question of power supply. In one run of 294.2 miles, with an outside temperature of 84 deg., the compressor operated 33 min. before departure and 2 hr. 49 min. enroute. The generator was cut in for 4 hr. 37 min. out of a total time of 6 hr. 20 min. and generated 40.5 kw.h. If atmospheric and other conditions had been such that the compressor would have operated continuously, it would have been necessary to have generated 65¾ kw.h. in order to arrive at the destination with the battery in the same condition as it was at departure. This would require the generator to deliver an average load of 14.2 kw. for the entire time it was cut in.

On another run of 921.2 miles the generator was cut in for 14.5 hr. of a total time of 24 hr. If the compressor had operated continuously the generator would have had to deliver 214 kw.h. to keep the battery fully charged. This would require an average load of 14.75 kw.

Another trip required 25 hr. 25 min. to run the 921.2 miles. On this run the train speed was above generator cut-in speed for only 12 hr. 55 min. If the compressor had operated continuously, 227.19 kw.h. would have been required from the generator, which would mean an average load of 17.6 kw. This indicates that under normal conditions, when the compressor would not be operating continuously and the generator would be cut in the greater part of the time, a 15-kw. generator would have sufficient capacity to take care of all requirements. To provide for abnormal operation cars should leave the terminals with batteries fully charged; therefore, provision should be made for pre-cooling from a separate source of power and for charging the battery while pre-cooling.

The equipment used on the above mentioned runs is similar to that on Illinois Central chair car No. 3648.†

Power Supply

On car No. 3648 the power for operation of the air-conditioning equipment as well as the lights is supplied by a 1000-amp.-hr. battery and a 15-kw. generator. The generator is mounted on the truck end-frame and is driven by four vee belts. On the other cars the generator is axle-mounted and is geared directly to the axle. The belt-driven generator has had approximately 36,000 miles of satisfactory operation and the belts are in excellent condition. The gear-driven machines have made approximately 725,000 miles with one bearing failure due to using oil in one gear unit that was too heavy for cold weather.

These generators operate at high speed—3,200 r.p.m. at 90 m.p.h. The necessary speed ratio is obtained on the belt-driven generators by means of a gear box built into the generator end frame. On the axle-mounted units the axle gear and generator pinion are proportioned to give the desired generator speed. The generators are totally enclosed and have radiating fins cast on the frame to assist in dissipating the heat. A grease-lubricated ball bearing carries the commutator end of the armature and the pinion end is carried by a roller bearing which is lubricated by oil from the gear case. The axle pulley used with the belt-driven generator is applied to a standard A.R.A. axle. The gear-driven generator requires a special axle. Timken roller bearings are used on the axle. A cast steel case covers the bearings and gears maintaining accurate gear center and tooth alinement. This housing is effectively sealed and retains the oil so that very little has to be added between changes.

Performance

The performance of the cooling equipment under conditions of high and low humidities with the temperature about 100 deg. F., is shown by the following data, which are the average of a number of tests. While circulating 2,850 cu. ft. of air per min. and taking in 20 per cent of outside air at a temperature of 103.2 deg. F. and 50.3 per cent humidity, and with the compressor operating at 1,198 r.p.m., 200 lb. head pressure and 31 lb. suction pressure, 6.68 tons of refrigeration were delivered to the evaporator, a considerable amount of water was condensed from the air and 5.98 tons of refrigeration were delivered to the air within the car, maintaining an inside temperature of 66.4 deg. F. with 62.6 per cent humidity, which is well below the upper limits of the comfort zone. As temperatures about 100 deg. F. with humidity about 50 per cent are unusual conditions it appears that this size equipment is ample under the most severe conditions.

With an outside air temperature of 104.3 deg. F. and 10½ per cent humidity and circulating 2,980 cu. ft. of air per min. with 20 per cent fresh air and compressor operating at 1,051 r.p.h., 194 lb. head pressure and 32 lb. suction pressure, 6.28 tons of refrigeration were delivered to the evaporator and 5.47 tons to the air within the car, producing an inside temperature of 62.8 deg. F. with 37 per cent humidity, which is below the comfort zone, indicating that less refrigeration would be required under normal operation.

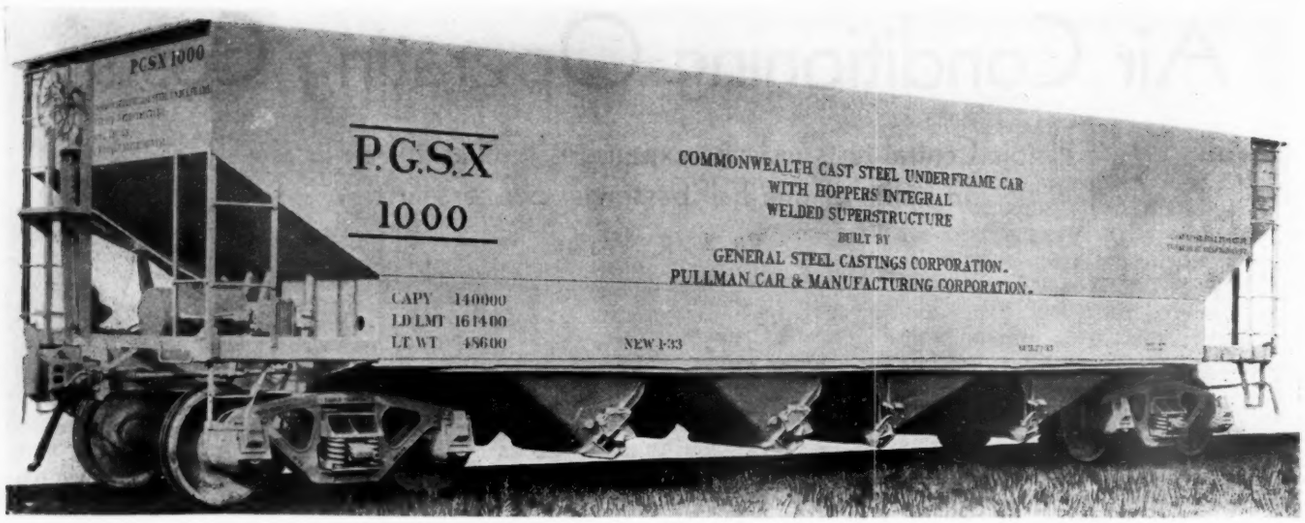
Regardless of the reliability and efficiency of available equipment the foremost question in the minds of railway executives in connection with air conditioning is what will it cost?

In attempting to answer this question it is necessary to make certain assumptions as the equipment has not been in service a sufficient length of time to determine all factors that affect operating costs and fixed charges.

(*Continued on page 474*)

* Abstract of a paper presented before the New York Railroad Club in New York, N. Y., March 17, 1933.

† Equipment of this type made by the Westinghouse Electric & Manufacturing Company was described in the July 30, 1932, issue of *Railway Age*.



All-Welded Hopper Car with Cast-Steel Underframe

Pullman Builds 70-Ton Hopper Car With Cast-Steel Underframe

All-welded car with Commonwealth bed frame conforms to A. R. A. requirements—Designed for high capacity per unit weight and maximum corrosion resistance

THE first all-welded 70-ton hopper car with a cast-steel underframe has recently been designed and built by the Pullman Car & Manufacturing Corporation in conjunction with the General Steel Castings Corporation. The principal objectives sought in the development of this car were to meet the requirements as regards general dimensions, capacity and hopper arrangement recommended by the Car Construction Committee of the A. R. A., Mechanical Division; to provide a car of high capacity per unit weight by combining welded construction with a cast-steel underframe of special light-weight design; also to assure a high degree of corrosion resistance, long life and freedom from maintenance expense by building an all-welded copper-bearing steel superstructure on an underframe of cast steel. It is expected that the car will form a part of the exhibit of the General Steel Castings Corporation at the Century of Progress Exposition at Chicago.

A nominal load-carrying capacity of 70 tons in this car is obtained with a light weight of only 48,600 lb. As shown in the table of general dimensions, the car is 41 ft. 5 in. long over the striking castings and has a cubic capacity, level full, of 2,784 cu. ft., and with a 10-in. average heap, 3,120 cu. ft. The car is equipped with the new 1012 Type-AB Westinghouse brake, Ajax vertical-wheel hand brake, Cardwell-Westinghouse Type NY-11-E draft gears, and A. R. A. Type-E couplers, with 6¼-in. by 8-in. shank, rotary bottom operating. These couplers, as well as the yokes, truck bolsters, side frames and springs, consisting of four A. R. A. double-coil springs and one elliptic spring per truck side, were furnished by the American Steel Foundries. Journal-box lids of the 6-in. by 11-in. E-Z-On pressed-steel type were furnished by the Railway Steel Spring Company, and the steel-back brake shoes by the American Brake Shoe & Foundry Co. The trucks are designed for 70 tons capacity, with A. R. A. 6-in. by 11-in. axles and 850-lb. chilled tread wheels.

One-Piece Underframe Replaces 173 Parts

The Commonwealth one-piece cast-steel underframe incorporates in one strong, durable unit, continuous center and side sills, body bolsters, draft-gear pockets, striking plates, coupler supports, hoppers, hopper-door hinge lugs, and brake-cylinder supports, thus forming a substantial foundation for the car. The weight of this underframe with integral hoppers, approximately 13,000 lb., is actually less than the weight of parts displaced in the fabricated underframe designed for the standard A. R. A. 70-ton hopper car, and, in addition, the cast-steel underframe replaces 173 parts and about 2,000 rivets.

It is expected that the use of this type of underframe will effect a substantial reduction in maintenance charges over that required in the case of fabricated hopper-car underframes. In many cases, the replacement of rivets in fabricated underframes, which have been loosened in service, is only a small part of the necessary work, since much additional labor is involved in removing other parts of the car to gain access to the portions actually requiring repairs. The advantages anticipated with the cast-steel underframe, therefore, include a reduction of actual repair operations and a substantially longer period between car repairs, the car consequently being avail-

able for revenue service a larger proportion of the time.

The inherent characteristic of cast steel in offering high resistance to corrosion provides an additional important advantage in this underframe, which is expected to add greatly to the durability and life of the car. The employment of cast-steel underframe construction also permits rounding all the inside corners to assure complete clearing of the hoppers, which are of unusual width and capacity, thus facilitating the use of larger door openings and reducing the time required for the discharge of loads. The larger hoppers and door openings are made possible, of course, by the fact that the cast-steel construction permits a simpler center-sill design with a better distribution of metal. The use of large-capacity hoppers also lowers the center of gravity of the car.

The Superstructure

The superstructure of this car, designed by the Pullman Car & Manufacturing Corporation, is built up almost entirely of structural shapes and pressed plates, arranged so as to facilitate welding, which, in this case, was practically all done by the electric process, using coated welding rods and the latest welding practices. The entire technique of welding used in the construction of this car is the result of several years' exhaustive research and experiment by the car builder with various types of welding materials and methods to produce the particular characteristics required in welds at various points of the car structure.

Several patented features are included in the construction of the car, aside from the underframe details.

General Dimensions of 70-Ton Hopper Car with Cast-Steel Underframe and All-Welded Superstructure

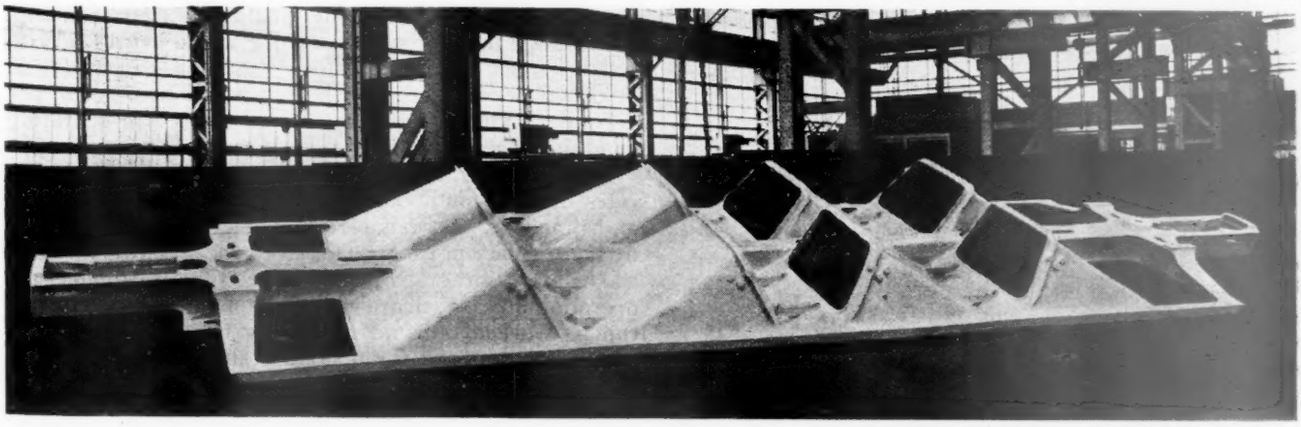
Length over striking castings	41 ft. 5 in.
Length inside	40 ft. 5 in.
Width inside	10 ft. 0 in.
Width overall	10 ft. 2¼ in.
Height from rail to top of car	10 ft. 8 in.
Centerplate height	2 ft. 2¾ in.
Truck centers	31 ft. 5 in.
Truck wheel base	5 ft. 8 in.
Side bearing centers	4 ft. 2 in.
Cubic capacity, level full	2,784 cu. ft.
Cubic capacity with 10-in. average heap	3,120 cu. ft.
Light weight of car	48,600 lb.

Among the most important of these are the side girder construction, the tubular lateral bracing provided to stiffen the car sides and a number of details of the end construction. In order to conform with the I. C. C. requirements, all safety appliances are riveted on. The door hinges, door spreaders, draft-gear carriers and brake parts are applied with rivets, as riveting is considered more desirable at these points than welding.

End View Showing New Westinghouse Type-AB Brake Equipment and Other Specialties

To make the car self-clearing, the main floor is sloped at 30 deg. and the lower side of the side top chord at 40 deg. Each side consists of two sheets, the top and bottom sheets being lap-welded at the horizontal seam. The horizontal side girth, pressed integral with the bottom side sheet, extends from bolster post to bolster post. The upper edge of the side is reinforced with a top chord pressed from a 5/16-in. plate extending continuously from end to end inside the car. Fourteen side posts per car, pressed from ¼-in. plate, are applied on the inside of the car. The bolster posts are continuous from side top chord to the top of the underframe, being notched at the floor line to form a solid interlocking joint. At the ladder corners of the car, the side sheets are pocketed enough to keep side ladders inside clearance limits. The bottom side sheet laps the cast-steel side sill 1½ in.

The end sheet and the end floor plate are pressed integral from one ¼-in. plate extending from side to side of the car. The end top chord is a 5-in. by 3½-in. by ⅜-in. bulb angle applied directly to the top edge of the end sheet to form a butt joint. The floor sheet at the bottom edge laps the underframe 1 in. End sills are

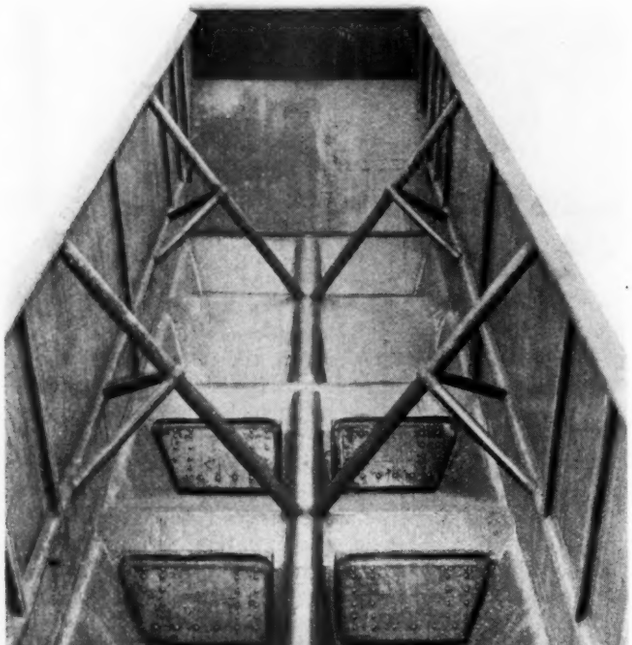


The Steel Underframe Casting

3½-in. by 3½-in. by 5/16-in. rolled angles applied with the horizontal leg upward, the edge of the vertical leg resting directly on top of the cast-steel center sill.

The bottom part of the bolster is cast as part of the underframe, the upper part being formed from a 5/16-in. plate, flanged 6 in. along the top edge for supporting the floor. Side-bearings wear plates of 4-in. by 3-in. spring steel are applied, the side bearings being shimmed to produce a total side motion of ½ in. to ¾ in.

The inside bracing is built up of standard-weight wrought-iron tubing. The main braces extend from the side top chord at the side to the top of the center sill at the center. Each main brace, of 4-in. tubing, is stiffened by short struts extending down to the longitudinal side girth, the struts, made of 3½-in. tubes, spreading 60 deg. at the main tube. Two sets of bracing, applied at the cross-bearers, are required per car side.



Interior of the Car, Showing the Hoppers in the Cast-Steel Underframe, the Side Bracing and Other Details

Eight drop doors per car, swinging transversely in pairs, are held in closed position with hooks. The doors are pressed from ¼-in. plate having a short outward flange and are pressed inward to follow the contour of the mouth of the door opening. Four door hinges, 2½ in. by ⅜ in., per door are riveted directly to the door plate. The spreader member, tying the doors together, is a 5-in. by 3¼-in. by 5/16-in. Z-bar riveted directly to the door plate.

The brake levers are drilled to produce a braking power equivalent to 60 per cent of the light weight of the car with 50-lb. air pressure. The air-brake piping is welded in place on the car instead of using the conventional U-bolt clamp, except at the angle cock where the U-clamp is maintained to allow easy replacement of the angle cock, if necessary. Similarly, the joints of the pipes are welded, the only fittings used being at the joints where they are needed to permit easy removal of the air-brake equipment for periodical cleaning.

Air Conditioning Operating Costs

(*Continued from page 471*)

Due to improvements in design and manufacturing methods this year's equipment is lower in first cost and, no doubt, will be cheaper to maintain and operate than last year's.

Assuming a generator and drive efficiency of 80 per cent, a locomotive mechanical efficiency of 80 per cent, 2.094 cylinder horsepower hours would be required to generate 1 kw.h. Using 5.5 lb. of coal per cylinder horsepower hour, 7.329 lb. of coal would be required for each kw.h. generated. Assuming that the cost of coal, water and locomotive lubrication would increase in direct proportion to the amount of coal burned, the cost of generating 1 kw.h. would be $.0083, based on an average cost of coal, water and lubrication of $0.001133 per pound of coal. As the cost of lubrication would not increase in direct proportion to the coal burned, the extra cost of lubrication included in the above figures would offset the theoretical increase in cost of locomotive and car maintenance, exclusive of the air-conditioning equipment.

At present a six-ton equipment, complete with ducts, generator, battery and all auxiliaries should be installed at a total cost not to exceed $6,500. Assuming a ten-year life, interest at six per cent and taxes and insurance at 1.5 per cent, the total fixed charges would be $1,037.50 per year, or $2.85 per day. Based on maintenance labor of one man-hour per car per day and gas, oil and other supplies at $100 per year, of which 75 per cent would be used during the six months when the cooling equipment would be operating, the labor and material cost chargeable to air-conditioning would be $1.22 per day. This makes a total cost of fixed charges, material and labor of $4.07 per day.

Referring to the 294-mile run before mentioned, it will be noticed that 40.4 kw.h. were generated. At $0.0083 per kw.h. this would cost $0.335 or $0.00115 per car-mile. On this run the fixed charges and maintenance cost would be $0.0139, making the total cost $0.015 per car-mile. If conditions were such that the compressor operated continuously 65.75 kw.h. would have been required at a cost of $0.546 or $0.00185 per mile, increasing the total cost to $0.01575 per car-mile. This would mean a coal consumption of 482 lb., or 164 lb. per 100 car-miles. As the average coal consumption for the same division was 1,725 lb. per 100 car-miles for trains not air conditioned, the increase in coal consumption would be approximately 9.5 per cent.

On the 921-mile run, with the compressor operating continuously, 227.2 kw.h. would have been required at a cost of $1.89 or $0.00205 per car-mile. As cars on this run lie over approximately 12 hours after each trip, the average mileage made each day would be 614. With fixed charges, labor and material cost of $4.07 per day or $0.00665 per mile, the total costs would be $0.0087 per car-mile. Thus it appears that under severe operating conditions the costs are not excessive.

In conclusion, it is felt that experience thus far indicates that air-conditioning of passenger cars is desirable and practical; that reliable axle generators, gear or belt drive, of sufficient capacity are available; that the mechanical compressor system of refrigeration is suitable for operation on cars; that a simple automatic control system can be worked out and that using conservative figures the total costs both for operation and fixed charges are such that a very small increase in traffic, approximately one-half passenger per car per day, would pay all charges.

Remote Control Switch Replaces Interlocker On Missouri Pacific

End-of-double-track layout controlled from plant five miles away—Investment of $6,500 saves $5,500 annually

Signals and Switch Machine at Cliff Cave

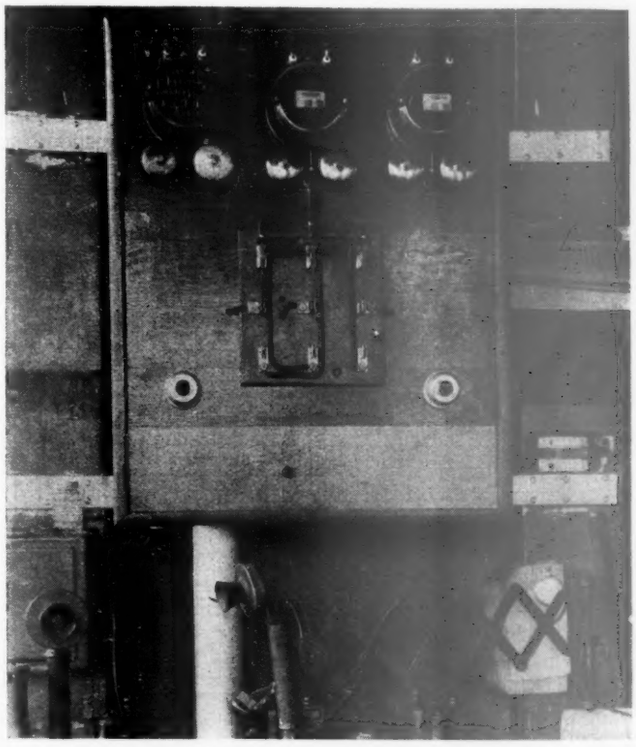
THE Missouri Pacific has replaced a two-lever mechanical interlocking at the end of double track at Cliff Cave, Mo., by a remote-control installation, including an electric switch machine and three semaphore signals, controlled from a one-lever board located in Davis Street Junction tower about five miles away. The remote control installation cost about $6,500 and the savings effected in wages of operators amounts to about $5,500 annually.

For the most part the Missouri division, extending from St. Louis, Mo., to Poplar Bluff, is single track, the five mile section of double track from Davis tower in St. Louis to Cliff Cave having been constructed to facilitate movements into and out of the yards and connections at St. Louis. The traffic consists of about 25 trains daily, including 12 passenger trains, 8 regular freight trains, about 2 to 4 extra freights, and 2 local mixed trains.

The old S. & F. mechanical interlocking machine, for the operation of the end-of-double-track switch at Cliff Cave, was located at the east side of the track near the switch. This equipment was removed when the new remote control system was installed.

A Model-5 General Railway Signal Company low-voltage switch machine was installed to operate the end-of-double-track switch. Model-2A semaphore signals were used for the high-speed home signals and a dwarf of the same type was used for back-up movements on the northward main. The signal controlling movements off the single track has two arms; the top arm has three indications and not only gives authority to the engineman to proceed through the plant but also gives rights to the automatic block beyond. The lower arm, giving two indications, governs movements to the left main and gives authority of the plant only, train orders being issued in advance to any train making such a move. The three-indication southward signal on the right-hand main track governs movements not only through the plant but also through the automatic block beyond. The lower arm of this signal is fixed. The dwarf signal for reverse movements on the northward main has two indications: 45 deg. and horizontal. Any train making a reverse movement between Davis tower and Cliff Cave does so on train orders; such reverse moves are made only in emergencies.

The control panel in the operator's office at Davis tower includes a track diagram with one indication light at the switch and a three-pole double-throw knife switch, together with three bells, as shown in the illustration. The switch, or lever as it is known, is normally open in the mid position and is thrown up to control the power-operated switch and signals at Cliff Cave for a northbound train movement, but is thrown to the down position for a southbound movement. With the up position of the lever, the switch is lined for a northbound train to take the turn-out to the right-hand main of the double track; when the lever is in the down position the switch is lined for the straight track. The control of the signals



The Control Board in Davis Street Junction

depends not only on the position of the switch for the different routes but also on the condition of the automatic blocks. However, all signals indicate Stop when the lever is in the mid-position.

Of the three bells at the top of the panel, the left one is an annunciator for northbound trains, the middle one an annunciator for southbound trains on the southward track and the third is a combination switch-indication and OS bell. The approach sections extend from 1.5 to 2.0 miles in the approach to the home signals. When a train enters one of these approach sections, the annunciator starts ringing and continues to ring until the operator shuts it off by turning the corresponding snap switch. He then throws the lever either up or down, as the case may be, to line up the switch. When the switch starts to move, the right-hand bell gives a single stroke and likewise when the switch is over and locked in the opposite position the bell gives another stroke. The proper signal indications are then displayed, depending on the position of the switch.

When the train occupies the detector track circuit including the switch, the bell on the right of the panel rings for about one second and the small lamp at the switch on the track diagram is lighted and continues to be lighted as long as the train occupies the circuit, thus serving as an "OS." As soon as the "OS" light is extinguished, the operator knows that the train has passed out of the plant limits. Therefore, he moves the lever to the mid-position and leaves it there until the next train is announced.

This installation was made by the signal department forces of the Missouri Pacific, the signals, switch machine and other principal signaling equipment being of General Railway Signal Company manufacture, while the storage batteries are Exide.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended March 18 amounted to 449,712 cars, which was an increase of 11,899 cars as compared with the preceding week but still reflected some of the effects of the bank holiday. As compared with the corresponding week of last year this was a reduction of 135,047 cars. Miscellaneous loading showed an increase of 9,945 cars as compared with the week before, and grain and grain products an increase of 8,537 cars, while forest products, ore and livestock also showed some increases. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week ended Saturday, March 18, 1933

Districts	1933	1932	1931
Eastern	103,614	138,138	167,804
Allegheny	83,819	116,634	151,754
Pocahontas	31,767	39,764	42,188
Southern	73,406	89,899	122,785
Northwestern	51,989	66,907	86,392
Central Western	65,437	85,290	107,987
Southwestern	39,680	48,127	62,343
Total Western Districts	157,106	200,324	256,722
Total All Roads	449,712	584,759	741,253
Commodities			
Grain and Grain Products	26,664	29,890	38,624
Live Stock	12,287	16,183	21,449
Coal	87,463	131,073	127,971
Coke	4,294	6,839	7,995
Forest Products	14,337	20,307	33,950
Ore	2,480	3,267	5,916
Mdse. L. C. L.	152,825	187,192	222,227
Miscellaneous	149,362	190,008	283,121
March 18	449,712	584,759	741,243
March 11	437,813	575,481	733,580
March 4	477,827	559,479	723,215
February 25	459,079	535,498	681,221
February 18	514,390	572,265	713,156
Cumulative total, 11 weeks	5,233,829	6,229,711	7,905,378

The freight car surplus on February 28 amounted to 649,630 cars, a reduction of 20,598 cars as compared with the number on February 14. The total included 367,987 box cars, 205,925 coal cars, 32,297 stock cars, and 14,487 refrigerator cars.

Car Loading in Canada

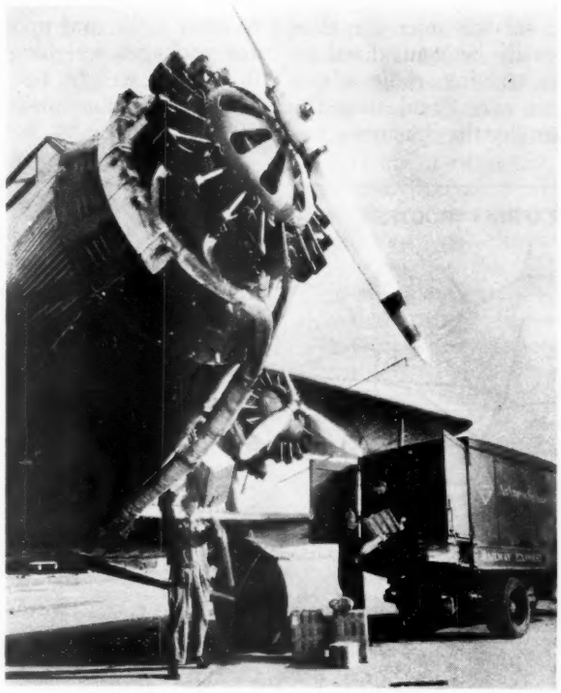
Car loadings in Canada for the week ended March 18 increased to 35,886 cars from 34,371 cars for the previous week and the index number rose from 58.40 to 60.06.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
March 18, 1933	35,886	16,581
March 11, 1933	34,371	15,769
March 4, 1933	34,211	18,049
March 19, 1932	43,154	24,079
Cumulative Totals for Canada:		
March 18, 1933	360,683	187,819
March 19, 1932	455,275	235,025
March 14, 1931	508,759	302,684

Co-ordinated Air-Rail Express Brings Fast Service to Entire Country

Air operations of Railway Express Agency now serve 100 cities directly and tie-up by rail with 23,000 other communities—Network developed within past five years

AIR-EXPRESS services of the Railway Express Agency, Inc., have so developed during the five years since their inauguration that at the close of 1932 six major air routes, serving approximately 100 cities directly by air, were embraced in the system which, as a result of co-ordination with rail express lines, also brings expedited service within the reach of all the other 23,000 cities and towns covered by Railway Express Agency facilities.



The six major air routes embrace more than 11,000 route miles. They include: United Air Lines, operating from New York, via Chicago, to San Francisco, Cal., from Chicago to Dallas, Tex., from Omaha, Neb. to Kansas City and Omaha to Sioux City, Sioux Falls and Watertown, S. D., from Salt Lake City, Utah, to Seattle, Wash., and along the Pacific coast from San Diego, Cal., to Seattle; the National Parks Airways, operating from Salt Lake City to Great Falls, Mont.; the Western Air-Express, operating between Salt Lake City and Los Angeles, Cal., Cheyenne, Wyo., and El Paso, Tex., and Pueblo, Colo., to Amarillo, Tex.; the Northwest Airways from Chicago to Minneapolis, Minn., and St. Paul, Fargo and Grand Forks, N. D., and Winnipeg, Man., via Pembina, N. D.; the Kohler Aviation Corporation's Milwaukee, Wis.,-Detroit, Mich., line; and the Rapid Air Transport's Omaha, Neb.-Kansas City-St. Louis, Mo., route.

While this network has been developed since September 1, 1927, the American Railway Express Company—the predecessor of the Railway Express Agency—pioneered in air express operations as early as November, 1919, when it sponsored an experimental flight of a big British bomber, in this country after the armistice, from New York to Chicago. There were, at that time, no established air routes, lighted airways or reliable weather reports, and the conclusion was reached that aviation had not advanced far enough to make an attempt at regular service practical. It was therefore decided to wait until regularly-scheduled air lines were in operation.

Meanwhile commercial aviation, sponsored by the United States Post Office Department, was getting under way. The trend in this connection was to take the government out of the plane-operating end of the business and this was accomplished gradually as satisfactory air-mail contracts with private operators were executed.

The air express service was first inaugurated by the American Railway Express Company when the Post Office department completed its withdrawal from the operating field by relinquishing the New York-Chicago route to private operators, the way being opened, meanwhile, by the passage of a law which permitted air-mail operators to contract for other business.

A transcontinental air-express system was achieved at the outset through simultaneous initial contracts with four operators. Subsequently the American Railway Express Company extended the service to include radiating and connecting air lines and its activities in the aeronautic field were taken over and continued by the Railway Express Agency, Inc., when the latter was organized by the railroads in 1929.

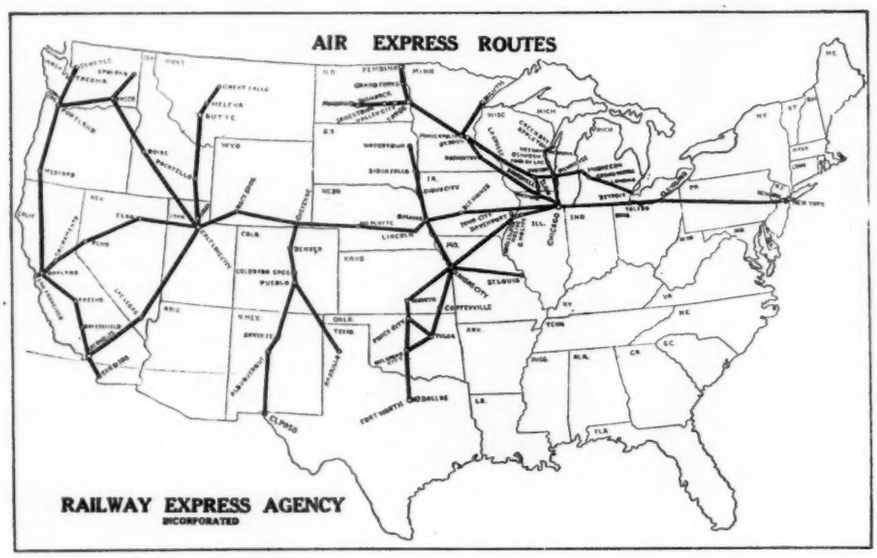
Operation of the air-express service of the Express Agency is similar to its rail operations; the Agency, as it does with passenger trains, contracts for space on airplanes and arranges for pick-up and delivery. Payments under the contracts are based on percentages of gross revenue.

Co-ordination with the rail express service has been the objective and such a tie-up has been found perfectly practical since, under it, a town need not be located on an air route to be accorded expedited service. The obvious value of the air express is speed in transit and thus experience has dictated the discontinuance of some air service between points relatively close together where the saving in time which air-express affords over rail express is insufficient to attract business to the former at its higher rates. It is for long-haul business originating or destined to such points or other smaller places that the co-ordinated rail express services provide a tie-up with the nearest airport.

One of the principal problems in providing the air-express service centers around arrangements for the

pick-up and delivery of shipments since most airports are located in outlying sections, remote from the heart of cities. Although in some cases trucks of the Railway Express Agency are employed for the work, generally speaking, the air lines arrange to handle the express between airports and the nearest station of the Express Agency. Beyond this latter the Express Agency handles the shipments to the consignees by train and truck, or by truck alone if such an arrangement is speedier.

Inbound business to New York, for example, is left by the planes at the Newark, N. J., airport and trucks in the employ of the air operator transfer the express to the Express Agency's Newark station; the shipments are then transferred by train to New York where they are delivered to consignees by the trucks of the Express Agency. The procedure is reversed for outbound shipments from New York. This ground work is considered a most important feature of the service since the time advantage of air services could easily be neutralized by terminal delays. When a plane is arriving, radio advice is received concerning its express cargo and thus the ground force is prepared to handle the business expediously. Shipments arriving before the close of the business day are immediately dispatched to consignees; those arriving later are held for first delivery, the next morning. Shipments arriving on evening planes before midnight, addressed to consignees at homes, hotels or clubs, are delivered at once when requested, telephone inquiries being made in advance as to whether immediate delivery is desired. Collection and delivery of air express shipments is made without extra charge, under regulations governing the forwarding of rail express shipments.



Six Major Air Routes, Serving Approximately 100 Cities Directly by Air Are Embraced in the Express Agency's Air-Express System

Traffic Is Newly-Developed Business

Traffic seeking the air-express service constitutes, in the main, newly-developed business and thus on the whole has not been diverted from rail-express service. The business has fluctuated both in character and in quantity. At the outset the air-express service received a substantial amount of traffic which was largely of a novelty nature, being forwarded by individuals and companies who wished to gain the distinction or make use of the advertising value of being the first to use the service. It took time to determine to what extent commerce and industry of the country would employ air transport, in view of the necessarily higher rates which high speed requires. Experience gained in handling the country's rail-express service has enabled the Express Agency to establish rates and tariffs suited to the development of the business. Two substantial reductions in rates have been made; one of these involving cuts, in some cases as high as 50 per cent, became effective in December, 1931, and the second, with further downward revisions ranging from 15 to 30 per cent, became effective on December 1, 1932. The latter reduction was made possible because of the increased volume of traffic and the constantly ascending-scale of weight averages of shipments.

Air-Express Rates

Charges published in this latest tariff are quoted in cents per ½ lb.—minimum per shipment $1—and are based on a measurement of not more than 100 cu. in. to each ½ lb. and upon a valuation of not to exceed $50 for packages weighing less than 100 lb. or 50 cents per lb. actual weight for packages weighing over 100 lb. When the cubic measurement of any package exceeds 100 cu. in. per ½ lb. it is assessed on the basis of ½ lb. for each 100 cu. in. or fraction thereof. When the declared value exceeds $50 for any shipment of 100 lb. or less, or exceeds 50 cents per lb. actual weight for any shipment in excess of 100 lb. an additional charge of 15 cents is made for each $100 or fraction thereof of value in excess.

Fractional weights of three ounces or less are discarded; from four to 12 ounces they are treated as ½ lb. and if over 12 ounces as a full pound. C. O. D. shipments are accepted under the same rules as govern such shipments in rail express service and perishable shipments are handled when they will not cause damage to other articles with which they may come in contact. Packages of extreme length or of unusual shape and packages weighing in excess of 200 lbs. are transported if arrangements are made beforehand. The packing and marking requirements for rail-express shipments apply also in connection with the air-express service.

The records of the Express Agency are replete with interesting stories of novel consignments. Bank checks, news reel films and documents, among the regular shipments, are moving in increasing volume. Checks, for example, are now dispatched regularly by air-express between New York and Chicago, Los Angeles, Cal., and San Francisco; a saving of $4,098 per million dollars in

the face value of such checks is estimated by financial authorities to be realized from the saving in interest and cut-down in "float" that results.

Loss and damage claims are small; in December, 1932, this item amounted to only .00185 per cent of gross revenues. This figure—a new low—is attributed to concentrated air-traffic management, intensified operations, improved aircraft equipment and more effective communication, as well as the adoption of the newest devices for the protection of cargo aboard airplanes. Another factor in this element of cargo safety is considered to be the application to air-express operation of the methods which have been successful in the rail-express operations, not only in transit but in pick-up and delivery.

Federal Railroad Co-ordinator Planned

WASHINGTON, D. C.

APPOINTMENT of a federal railroad co-ordinator, with regional assistants, with broad powers to put into effect methods for economizingly eliminating competitive duplications in operations and service, is the principal feature of President Roosevelt's railroad plan to be laid before Congress probably next week in a special message accompanied by a bill. While the exact nature of the powers to be conferred upon the new official have not been disclosed, it is understood that they will be sufficient to override some of the restrictions or red-tape imposed by the anti-trust laws or otherwise as well as to overcome the opposition of a recalcitrant railroad.

Main details of the plan, on which advisers to the President have been working for him for several weeks, were authoritatively disclosed here on Wednesday and although the final draft of the bill had not then been completed the chief features were regarded as rather definitely settled. It is not now contemplated that the government shall undertake any guarantee of or financial responsibility for railroad obligations, and it is planned to allocate to the railroads themselves the small expense involved in the operation of the co-ordination plan.

The co-ordinator and his assistants will be federal officers, clothed with the power to be conferred by the new legislation, but it is understood that the regional assistants may take the form of, or exercise their functions mainly through, committees of railroad executives.

The plan is to apply only to railroads, as a temporary expedient, although it is hoped eventually to include all forms of transportation under federal supervision. This would require further legislation. The functions of the co-ordinator will not suspend any of the functions of the Interstate Commerce Commission and the commission is not to be abolished, as has been frequently predicted in earlier disussion of the plans for reorganizing government agencies, although just how that body will be affected by the plans now being worked out for governmental reorganization has not been authoritatively disclosed.

Whether this plan will be included in one bill by itself or in an omnibus bill embracing other phases of railroad and transportation legislation had not been definitely determined. It is understood to be the particular new contribution of the President and his advisers toward the planning which has been going on looking toward an improvement of the transportation situation and it will be followed by recommendations for several changes in existing laws or new ones, including some of those on the program of the railroad executives, which have been urged for a long time but which have been the subject of much controversy and have made little progress in Congress in the absence of the kind of determined leadership which the new Chief Executive has been displaying since March 4. President Roosevelt is also believed to favor the continuation of loans by the Reconstruction Finance Corporation to railroads which can, with this assistance, show prospects of improving their financial situation, although some of them will be expected to take advantage of the new form of reorganization procedure provided by the law passed just before March 4. He had already indicated his willingness to "stand back" of the railroads for a specified period, on condition that they evince a willingness to co-operate in plans for eliminating so-called competitive wastes and for financial reorganization. He had also indicated his desire for regulation of competing forms of transportation, repeal of recapture, and some curtailment of detail regulatory interference with managerial discretion. He also desired some regulation of holding company activity and bills to accomplish that and to repeal the recapture clause have already been reported by the House committee on interstate and foreign commerce. Preparations have been made for taking up highway transportation regulation.

One of the purposes of the plan is to enable the railroads to do some things that many of them have wanted to do and which the Interstate Commerce Commission has wanted them to do but which have been difficult to accomplish because of legal restrictions or because they could be accomplished only by unanimous consent. It is expected to result in some reduction of parallel and competing service and some imposition of charges for accessorial services now rendered free, and possibly in various local pooling arrangements. Some provision will be made for an appeal from the co-ordinator to the commission and under some circumstances the commission may be given power to suspend an order issued by him.

The government will have some power to compel certain railroads to undergo financial reorganization through its ability to grant or withhold loans from the Reconstruction Finance Corporation, which seemingly has been holding its policy as to future loans in abeyance for a time, because, although it has approved several additional loans since January 1 to several of the 62 railroads which received loans last year, it has not yet authorized any to roads which have applied for the first time this year, some of which have been approved by the Interstate Commerce Commission.

The President has had several advisers making specific studies for him, and they have also received many suggestions from other sources. After the inauguration he seems to have referred the whole subject of transportation legislation as well as the proposal for a possible reorganization of the Interstate Commerce Commission to Secretary Roper of the Department of Commerce, although Mr. Roper has had no particular experience with or familiarity with the subject. There appears also to have been a fairly definite plan at one time to transfer the functions of the Interstate Commerce Commission, or some of them, to the Department of Commerce, on the President's theory of placing as many allied functions as possible under single directing heads; but a great deal of opposition sprang up to the idea of destroying the independence of the commission. Mr. Roper called some of the members of the commission into conference

on some of the consolidation plans suggested, and during the last week or so Commissioner Joseph B. Eastman, Dr. W. M. W. Splawn, who has served as counsel for the House committee on interstate and foreign commerce in several matters, and A. Lane Cricher, director of the transportation division of the Department of Commerce, have been acting as an informal committee on the subject. Prof. A. A. Berle, of Columbia University, and Raymond Moley, assistant Secretary of State, who have been often referred to by the newspapers as members of President Roosevelt's "brain trust," have also had a part in the work. Commissioner Eastman appears to have been most prominent in the later stages of the work and for that reason has been mentioned as a possible appointee to the new office of co-ordinator. Carl R. Gray, president of the Union Pacific, has also been mentioned in that connection.

The railroad executives have been kept in touch with the development of the plan recently through Mr. Gray, J. J. Pelley, president of the New York, New Haven & Hartford, and F. E. Williamson, president of the New York Central, who as a "contact committee" called on the President on March 20 and later conferred with several of his advisers. They reported the results of their conferences to a meeting of the Association of Railway Executives in Chicago on March 23 and returned to Washington on the following day. After that they saw the President again and have had conferences with Commissioner Eastman and others, and on Monday they met again with the advisory committee of the association here.

Another plan which seems to have received a great deal of consideration is that advanced by Frederick H. Prince, proposing the leasing of the railroads of the country to seven principal operating companies on the basis of a formula representing their average experience over the past twelve years. This plan was submitted some time ago to Secretary Roper and by him referred to members of the Interstate Commerce Commission and others. On Saturday Mr. Prince was given an opportunity to explain the plan personally to the President and he was at the White House again on Tuesday. J. W. Barriger, Mark W. Potter, formerly of the I. C. C. and now counsel for Mr. Prince, and Robert Jackson, secretary of the Democratic National Committee, have also been participants in the presentation of this plan.

This and other suggestions for a wholesale consolidation of the railroads had caused much apprehension in the ranks of the railroad labor organizations as to the danger that they would result in further reductions in the number of railroad employees, although the Prince plan is understood to make some provision for their protection. Donald R. Richberg, counsel for the Railway Labor Executives' Association, was at the White House on Saturday inquiring as to the situation, and he later announced that a meeting of the association had been called for Thursday to consider the matter.

STRICTER REGULATION, including reduced weight and load limitations, for motor trucks is now being proposed in Sweden because of the inroads which these highway carriers are making on railway revenues, according to recent reports received by the U. S. Department of Commerce. Despite progress in coordinating rail and highway services in that country, the report continues, the railways continue to lose substantial amounts of traffic to long-distance truck operators; and these latter are becoming stronger, through organization, to prevent rate cutting among themselves.

Books and Letters . . .

The Excellence of Railway Service—a Striking Instance

DALLAS, TEX.

TO THE EDITOR:

In view of the recent criticisms of the railroads which have appeared in the *Railway Age* as to the handling of passengers, etc., we know that you realize that there are two sides to everything, and I am pleased to enclose a copy of a letter from a firm in Michigan, relative to the handling given by the lines in connection with the death of an employee of the concern, at Midland, Texas.

The Michigan banks were closed under the moratorium order of the Governor, and the difficulties in getting funds to the wife of the deceased employee, to take care of funeral arrangements, were dissipated by the railroad representatives, and the traffic manager of the industrial company has expressed the situation quite clearly.*

This case is, of course, only one of thousands that are constantly being handled by the railroads and considered by officers and employees as simply "all in the day's work."

FRANK JENSEN,
General Passenger Agent, Texas & Pacific.

*Editor's Note.—The letter from the traffic manager of the industrial concern to the passenger department of one of the railroads reads as follows:

The demise of our employee, Mr. ————, at Midland, Texas, and the fact that his wife and boy had accompanied him as far as Dallas, Texas, leaving her most helpless—the circumstances being further embarrassing by the bank moratorium of Michigan—made the problem of their prompt return from so great a distance a most difficult one, which was quickly solved by the service of the railroads in this case in extending to Mrs. ———— the necessary transportation and finances incident to her needs.

For this we are indeed grateful and words cannot express our appreciation.

We know of no means or method that could have been resorted to which would have accomplished the service that was so imperative, and we believe this to be a most striking example of organization with conduct for good that has for it a force most convincing of the necessity and convenience for public welfare.

We wish to express our appreciation for the attention and courtesy that you extended, and the help you gave in directing the details to the proper end.

Also, we wish to advise that Mr. Frank Jensen, General Passenger Agent of the Texas Pacific Railway at Dallas wired us at length this morning, advising in detail how he had handled the matter with Mrs. ————, all of which is most commendable and substantiates the statement that big business is not free from sentiment and a true spirit of good will.

New Books

Signal Section, American Railway Association; Proceedings, Volume XXIX. 508 pages. 6¼ x 9¾ in. Cloth binding. R. H. C. Balliet, Secretary, 30 Vesey Street, New York City. Price $8. To members of the Signal Section $4.

This volume is dated 1931 but its contents deal wholly with the annual meeting which was held in Chicago, in May, 1932. This meeting was enriched by reports full of useful information from nearly all of the committees, and the present volume is correspondingly interesting and useful. The report of Committee I, which fills about 70 pages, gives all the latest authoritative information on the economies accomplished on numerous railroads by the consolidation of interlockings, the introduction of remote operation of single switches, the use of spring switches in main tracks, the operation of trains by cab signals without wayside block signals, centralized traffic control and other modern developments. The report of Committee V, filling 186 pages, gives detailed information concerning construction and operation of electro-mechanical interlocking, interlocking circuits (taking the place of mechanical interlocking) and, under

the head of instructions, descriptive matter relating to mechanical interlocking.

Other subjects discussed at the meeting included reflecting devices as a substitute for oil or electric lights, and developments in highway crossing protection.

The Lake Cargo Coal Rate Controversy, by Harvey C. Mansfield. 273 pages, 8⅞ in. by 5⅞ in. Bound in cloth. Published by the Columbia University Press. New York. Price, $4.25.

In this work, which is sub-titled "A Study in Governmental Adjustment of a Sectional Dispute," it is the expressed purpose of the author to investigate the ramifications of the lake cargo coal rate struggle, as they have involved the federal government, since, as he says, "twenty-five years of this conflict offer a pretty fair test of the adequacy of our federal machinery to compose sectional differences." The book thus proceeds, after outlining the industrial setting and the place that the lake cargo traffic occupies in it, to relate in detail the story of the controversy from its beginning to its latest phase. Following is a chapter devoted to the politics of appointments to the Interstate Commerce Commission, while the two final ones deal with some legal problems of rate regulation that have arisen in the course of the controversy, and that bear directly upon many other rate disputes between sectional interests.

The struggle as depicted is a dramatic one; the accounts of successive manoeuvres by the conflicting interests make interesting reading but, as Dr. Mansfield points out, all that has been produced thus far is the "grand anticlimax" of compromise differentials agreed upon by the railroads after the fixing of rates and differentials was taken from "the more unrestrained hands of shippers." He hazards no prediction, however, as to how long the present adjustment will remain but rather suggests that since there are ample coal reserves both north and south "it is a safe prediction that if coal is still carried by railroads, Pittsburgh and West Virginia operators will be fighting over lake cargo rate differentials for generations to come."

A Study of Motor Transport "Taxation"

The Taxation of Motor Vehicle Transportation. Published by the National Industrial Conference Board, New York. 196 pages. 6 in. by 9 in. Bound in Cloth. Price, $2.50.

This is a valuable reference book including within its pages in conveniently arranged tabular form with a degree of completeness hitherto unattained, many complex facts and figures that bear upon the highly controversial question of motor vehicle fees and highway costs. There are no less than forty-three tabulations, including a survey of highway mileage from 1904 to 1931, fees and other levies on various classes of motor vehicles, license reciprocity policies of the various states, rural highway revenue and expenditures, etc., etc.

Having thus recommended the book, as we do recommend it for the tabular matter it contains, much of which is not easily available elsewhere and the compilation of which certainly involved much painstaking labor, our admiration can proceed no farther. Considering the standing of the organization which sponsors this study, the text which accompanies the tabular matter is amazingly one-sided in its acceptance of the views of motor transport enthusiasts. Acknowledgment is "gratefully made" in the preface to Thomas H. MacDonald, chief of the United States Bureau of Public Roads, and to the National Automobile Chamber of Commerce "who have furnished statistical data and have made helpful suggestions." A glance at the text, however, will show that the thanks should be reciprocal; the Bureau of Public Roads has been amply repaid for its assistance in this study by the acceptance of and publicity accorded to its fantastic theories and "findings" bearing on highway policy.

Early in the study appears a discussion of fees and taxes, and the word *tax* is chosen to describe the special payments made by motor vehicle operators for the privilege of using the highways —this in spite of the fact, obvious to even a tyro in economics, that such payments are not taxes in the ordinary sense; and the further fact of profound public importance that this confusion in terms is being deliberately utilized on a large scale by motor vehicle interests to conceal the fact that motor transport, in toto, pays no *net* taxes whatever.

The study acknowledges the fact that roads outside of cities were financed formerly by tolls. It lays the decline of the toll system to "exhorbitant rates, poor service and general inconvenience of the private toll roads. Moreover, there was a growing recognition of the general utility of highways, which was regarded in itself as justification for financing them by taxation." Actually, it was the railways, competing on equal terms, which put the toll roads out of business. Since it is impracticable to charge tolls for local and city vehicles, which was the only form of highway use which remained after railways were fully developed, the toll system disappeared. The economic soundness of the toll principle for through road traffic has been recognized at least since the time of Adam Smith. There is no more reason why a citizen's transport bill should be paid for out of general taxation than there is for so paying his grocer and his landlord, thus making him a complete pauper.

Nevertheless, with the advent of the motor vehicle, when highways were again used for long-distance transport, the motor industry succeeded in preventing the revival of the toll system—its foresight in this regard being amply evidenced by the clause in the federal aid highway act which prevents the levying of tolls on roads built in part by such aid. The economic principles involved in modern commercial highway transport were discussed authoritatively and comprehensively as recently as May, 1932, in the Quarterly Journal of Economics, and it is passing strange that the National Industrial Conference Board, which presumably has knowledge of current economic literature, in this study should largely ignore not only the implications but even the existence of that important and germane discussion.

The theory recently evolved by the Bureau of Public Roads which assigns a lower share of road costs to heavy vehicles than competent engineering authority, including the Bureau of Standards, heretofore have discovered in their researches, is accepted as fact. A study of this subject by this latter Bureau is mentioned, but the report discounts its findings in favor of those of the Bureau of Public Roads.

"It is believed," says the report, "that (license) reciprocity is the most satisfactory solution of the problem" arising from the operation of motor vehicles in states other than those in which they are registered. There being no important objection anywhere to reciprocal privileges for non-commercial traffic, it is perhaps worth noting that, in spite of the Conference Board's predilection for applying such privileges to all motor traffic, 17 states refuse to make such concessions in the case of for-hire vehicles.

The views on controversial questions of the Motor Vehicle Conference Committee, representing motor manufacturing and transport interests, are freely presented. The railroads, however, must content themselves with the Interstate Commerce Commission as their spokesman—quotations from a few of its carefully guarded, not to say grudging, opinions on the rail and highway competitive situation being deemed sufficiently representative of the railway viewpoint for purposes of this investigation.

In spite of the great amount of information which obviously is in the hands of the Conference Board, it is unable to give a "definite answer to the question whether the different classes of vehicles are contributing more or less than their fair share of the highway costs." It does, however, quote the Chief of the Bureau of Public Roads when he declares his belief that "trucks and buses are bearing their proper share of the costs of the roads," while it mentions none of the many available quotations arguing strongly the contrary view.

"Taxes," the Board apparently believes, should be so administered as not to have "deterrent effects on the development of motor transportation." (By inference, apparently, no deterrent is justified even if, in the form of fair regulation and adequate charges for the use of the roads, it prevents extension of motor service to uneconomic lengths!) Again, while it is held that increments in land value due to highway construction are a legitimate source of highway income, nothing is said as to payment for damages when arterial highways decrease property values, as they frequently do.

We do not question the good faith of the National Industrial Conference Board and the value of a large part of this study. We do gravely question the impartiality of many of the conclusions, however, which plainly have resulted from too great reliance for information upon blatantly partisan sources.

Odds and Ends . . .

Elephant Stops Train

Passenger train No. 10 of the New York, New Haven & Hartford was stopped at Mill River Junction recently when the air whistle sounded in the locomotive cab. Investigation developed that an elephant in the head baggage car had playfully pulled the communication cord. Possibly he wanted to make sure that his trunk had been properly checked.

Another Asset Being Liquidated

The other day, the Canadian National heard from a man who, like many of us recently was trying to turn his various assets into cash. It seems that the man found, among the effects of his late father, a ticket sold in Chicago on April 20, 1875, good for transportation from that city to Montreal and thence to Boston. The man has asked for a refund on the unused portion of the ticket, covering transportation between White River Junction, Vt., and Boston. The ticket was passed along by the Canadian National to the Boston & Maine, the road represented by the unused portion of the ticket, and it is now the latter road's move. The Canadian National has not divulged the name of the man who presented the ticket for refund, but it has hinted that the name begins with "Mac."

A Long Way Between Overhauls

A record for continuous operation on the Missouri-Kansas-Texas has been made by Katy locomotive No. 377. This locomotive recently completed 402,364 miles of operation without having been sent to the shops for overhauling and general repairs. This distance, we understand, is the same as that involved in a trip to the moon and three-quarters of the way back. No. 377 made its last visit to the shops for general overhauling back in July, 1927. Since then, it has been making its regular run between San Antonio, Tex., and Kansas City, Mo., averaging approximately 8,500 miles a month. The locomotive has passed its periodic federal inspections with high ratings and it is expected to run until the expiration of the period fixed by the government for the replacement of its boiler tubes.

"Great Service"

During a recent radio broadcast over station KFRC in San Francisco, Cal., Tom P. Brown, publicity manager of the Western Pacific, told a story to emphasize the point that the railroads are constantly striving to render the best possible transportation service.

"The highest compliment ever paid to 'service' was that of a passenger who boarded a train at Sacramento," related Mr. Brown. "He had been entertained not wisely but too well, and the redcaps had to help him find a seat in the smoking compartment. Turning to a fellow passenger, the new arrival said:

"'Where you going?'

"'To San Francisco.'

"'That's odd. You're going to San Francisco; I'm going to Salt Lake City. Both on the same train. Great service!'"

He Started Something

A pioneer freight traffic representative, who is credited with having initiated several unique advertising methods as a part of his freight solicitation, was recently honored with life membership in the Milwaukee (Wis.) Traffic Club. He is J. C. McCutchen, now a resident of Lake View, Iowa. Mr. McCutchen in the earlier days was assistant general freight agent of the Wisconsin Central at Milwaukee, later becoming general agent of the Northern Pacific at that point. During his years of service with the latter road, he always carried with him, when calling upon shippers, a large supply of calendars, blotters and other such advertising material to leave a lasting impression with his prospective customers, and it is said that his novel solicitation was the origin of methods which have since been adopted throughout the country. Now you know whom to thank for all the advertising what-nots which clutter up the mails each year, especially around Christmas time.

Migratory Station

People living along the line of the St. Louis-San Francisco had reason to question the veracity of their own eyesight recently when they saw a railroad station roll past on board a freight train, but it wasn't an optical illusion. It seems that the station at Mt. Vernon, Mo., burned to the ground, and one almost as good was found at Pennsboro where it was not particularly needed. So they loaded the Pennsboro station on a flat car and hauled it 17 miles to Mt. Vernon, where it is now thoroughly at home.

What the Well-Dressed New Haven Trainmen Are Wearing

Leave it to the New Haven to think up novel ideas. The road which first introduced that boon to hungry commuters, the "breakfast car," has rung the bell again with the printing and distribution of a book called "Standard of Appearance," which lays down the law to all uniformed employees of the railway as to what they shall wear and how they shall wear it. According to the New York newspapers, "conductors congregated in groups in the waiting room at Grand Central Station, wondering where they could get barathea silk, Worcestershire sauce at wholesale rates, and some sure way to overcome pocket bulge, all of which are sternly demanded in the new code." That may be putting it a little bit strong, but the fact remains that the new regulations are now in effect and that they leave little unsaid.

"The keen competition of bus transportation, air transportation and the private automobile can only be successfully met by increased efficiency on our part in the handling of our passengers," says the memorandum put out with the new rule book. "Changes in 'the way of doing business' demand that we adopt new methods in the battle to further the good-will of the public. One of the most effective means we have is through the neat and uniform appearance of our conductors and trainmen."

Division superintendents are charged with the duty of inspecting the uniforms of the men under their jurisdiction, and in one way at least, they will command the envy of fashion arbiters the country over: Their decisions will be absolutely final. Here are the style standards now in effect on the New Haven:

Shirts—Neckband style, white broadcloth, with soft cuffs.

Collars—Starched, laundered.

Tie—Heavy-weight black barathea silk, four-in-hand. (According to the New Standard Dictionary, barathea is a soft, coarsely woven material with diapered design.)

Shoes—Black shoes or oxfords of a conservative style. Brown or tan shoes will not be allowed while on duty.

Socks—Plain black, without any pattern.

The rule book is not without helpful hints on methods of keeping uniforms neat and clean. "When pressing your uniforms," it says, "it is of the utmost importance that you instruct the tailor doing this work for you not to press the parts of your uniform which are reinforced with leather. Leather will shrink when it is pressed with steam and will break afterward." There are also paragraphs on how to prevent moth holes, how to remove oil or grease from uniforms, including a long list of chemicals for dissolving a variety of other kinds of stains, a few lines on how to remove chocolate marks from clothing, and an especially timely paragraph on how to clean buttons that have turned green. So many gold buttons these days are turning green. On this subject the book says, "Buttons sometimes turn green when the gold plating is worn off and the copper base has become covered with green copper carbonate, due to exposure to moist air. This can be removed by rubbing gently with acetic acid or any substance containing this acid, such as vinegar or Worcestershire sauce."

So far, Sartorial Order No. 1 has not been made applicable to employees in engine service. Passengers, too, can wear anything they please on New Haven trains, so long as they pay their fares.

NEWS

House Committee Favors New Railway Legislation

Bills to repeal recapture and to regulate holding companies are approved

After several years of struggle there now appears to be a definite prospect for a repeal of the recapture clause of the interstate commerce act at an early date, carrying with it a repeal of the 5¾ per cent fair return rule of Section 15a and the substitution of the "flexible" rule of rate-making proposed by the Interstate Commerce Commission. The Rayburn bill to accomplish this object, H. R. 3754, together with his other bill, H. R. 3755, the so-called "holding company bill," were ordered favorably reported by the House committee on interstate and foreign commerce at a meeting on March 24, although they have been temporarily held up until it is determined whether there is to be an omnibus transportation bill to carry out the President's program, and similar bills have been introduced in the Senate by Chairman Dill of the committee on interstate commerce. Both bills were favorably reported by the House committee last year but were not taken up because the Senate committee had given them no consideration.

The 15a bill would repeal the recapture clause retroactively and also provide for the return of the amounts already recaptured by the commission, which with interest now amount to some $13,000,000, mostly paid under protest. It would also enable the commission to discontinue its recapture investigations, which it has estimated would show approximately $360,000,000 recapturable for the entire period since 1920, although very few final reports have been issued and many cases have not yet even reached the stage of tentative reports.

The new rate-making rule which the bill would substitute for the fair return "as nearly as may be" requirement provides:

"In the exercise of its power to prescribe just and reasonable rates the commission shall give due consideration, among other factors, to the effect of rates on the movement of traffic; to the need, in the public interest, of adequate and efficient railway transportation service at the lowest cost consistent with the furnishing of such service; and to the need of revenues sufficient to enable the carriers, under honest, economical, and efficient management, to provide such service."

The bill also provides for the completion of the valuation work and for the keeping of records thereafter which would keep the commission informed of changes.

H. R. 3755, which was reintroduced on March 27 with an amendment as H. R. 4222, would make unlawful for the future any acquisition of common control of a railroad, whether by a railroad, holding company, or individual, except with the approval of the Interstate Commerce Commission which would be required to find that it would be in harmony with and in furtherance of its consolidation plan. It also provides for the regulation by the commission of the accounts and securities of a holding company which might be authorized by the commission to acquire control of a railroad. The committee, however, adopted an amendment to eliminate the retroactive feature of the bill, which would have made it unlawful to continue to maintain control or management accomplished in violation of its provisions, by inserting language making it apply only after the enactment of the amendment. This was the principal stumbling block in the face of the bill and had been strenuously opposed by railroads interested in holding companies. The commission has modified its consolidation plan in such a way as to give general approval of most of the groupings effected by holding companies but has not approved some of their holdings.

Chairman Rayburn of the House committee also has reintroduced as H. R. 4006 his bill to provide for regulation by the Interstate Commerce Commission of the business of freight forwarding, and other railroad bills which were not acted upon at the last session but have been reintroduced include Representative Keller's pension bill, H. R. 4231.

Chicago and Cincinnati, 6½ Hours

The Pennsylvania will establish 6½-hr. train service between Chicago and Cincinnati, Ohio, on April 2. A new train, to be known as the Union, will leave Chicago at 1 p.m. (central time) and will arrive in Cincinnati at 8:30 p.m. (eastern time). Westward, it will leave Cincinnati at 2:30 p.m. and will arrive in Chicago at 8:05 p.m.

Surcharges Ordered for West Virginia State Traffic

The Interstate Commerce Commission on March 27 issued an order directing the railroads to apply the emergency freight surcharges on West Virginia intrastate traffic so long as they are maintained on like traffic in interstate commerce. The state authorities had failed to authorize the surcharges for state traffic.

Recent R. F. C. Rail Loans Given to Six Companies

Amounts aggregating $19,000,000 authorized from January 31 to March 21

Six additional loans to railroads, aggregating about $19,000,000, were authorized by the Reconstruction Finance Corporation from January 31 to March 21 and approximately $37,000,000 additional was disbursed on loans that had been authorized, according to a report made public by the corporation covering the period up to the close of business on March 21. This brought the total of railroad loans authorized to 111, aggregating $359,885,015, of which $328,592,114 had been disbursed to them and $20,175,984 had been repaid.

The report as of January 31 had shown 105 loans authorized, to the same 62 railroads, aggregating $340,435,093. For a time the corporation was holding up further loans to railroads, pending the investigation conducted by Senator Couzens in connection with his resolution to suspend further loans, and but one loan was made, to the Missouri Pacific, in January.

The changes shown in authorizations and disbursements since the January report show that the total authorizations to the Baltimore & Ohio have been increased to $70,125,000 and the disbursements to $65,367,469; for the Chicago & North Western $31,232,133 had been authorized and $21,022,033 disbursed; for the Chicago, Milwaukee, St. Paul & Pacific $8,000,000 had been authorized and disbursed; for the Chicago, Rock Island & Pacific $11,181,872 had been authorized and disbursed; for the Missouri Pacific $23,134,800 had been authorized and disbursed; for the New York Central $20,499,000 had been authorized and $16,100,000 disbursed; for the New York, Chicago & St. Louis $18,200,000 had been authorized and $17,655,200 disbursed; for the St. Louis Southwestern $18,790,000 had been authorized and $18,109,025 disbursed. The principal repayments have been $2,064,500 for the Chicago & North Western, $2,688,413 for the New York, Chicago & St. Louis, $2,805,175 for the St. Louis-San Francisco, $1,303,000 for the Western Pacific and $8,300,000, the entire amount loaned, by the Cincinnati Union Terminal Company. Except the latter item most of the repayments have been made by the Railroad Credit Corporation. Several loans approved by the Interstate Commerce Commission have not yet appeared in the list of authorizations by the R. F. C.

Basic Commodity Shippers Demand Rate Reductions

I. C. C. hears oral arguments on question of instituting an investigation

Oral arguments were heard by the Interstate Commerce Commission on March 24 and 25 on the question as to whether it should institute an investigation with a view to requiring a general reduction in freight rates on "basic commodities" as asked in the "memorial petition" filed by the National Coal Association, the National Lumber Manufacturers' Association, and three farm organizations. In addition to those who had signed the petition arguments were made by representatives of livestock, grain and feed, crushed stone, sand and gravel, steel, ore, clay products, paving brick, paper and pulp, cotton, and fruit and vegetable interests and of some of the western state commissions. They followed generally the position taken in the petition that freight rates are out of line with declining commodity prices and are so high as to prevent the shipment of many commodities or cause the use of cheaper substitutes.

Most of those who addressed the commission pointed to lower rates available for truck or water transportation and to the increasing diversion of rail traffic to other agencies, although none of the speakers seemed to feel that the availability of the competitive rates accomplished the object they hoped to gain by a reduction of rail rates. Most of the shippers' representatives appeared confident that a reduction in rates would help the railroads, by stimulating traffic, rather than injure them, although several were inclined to argue that the effect on the railroads was of only secondary importance. Members of the commission persisted in asking what kind of evidence could be presented, if a hearing should be ordered, to demonstrate how much traffic could be developed by lower rates, but the replies were somewhat general and some of the counsel who argued declared that hearings would be unnecessary. Others proposed hearings but said they could be confined to a short time.

Commissioner Meyer pointed out that the petition includes rates on grain which are still under investigation in another proceeding under the Hoch-Smith resolution. John E. Benton, general solicitor of the National Association of Railway and Utilities Commissioners, remarked that many railroads are being kept out of bankruptcy now by government money and suggested that further aid from the public treasury might be necessary to permit them to operate at rates that will move business. He said the carriers are admitting the necessity for reducing rates but that there is a general situation and they are adjusting "only in spots."

Wilson Compton, manager of the National Lumber Manufacturers' Association, said that while the primary interest of his members was in rates on lumber and timber products, they were also concerned with the general level of rates on all commodities in which transportation is a substantial portion of the delivered cost, because high freight rates have restricted the shipment of other commodities and have reduced buying power.

Alfred P. Thom, general counsel of the Association of Railway Executives, said there was no question as to the seriousness of the condition of many industries but he questioned as to whether there is a market for any considerable increase in many commodities and said he did not believe the demand could be created under present conditions by reductions in freight rates. Statements made by some of the counsel, he said, indicated that their products could not be sold profitably even if there were no freight rates. Even if the commission had power to order a reduction, he contended, it would be unwise and he pointed out that there is nothing in the law to justify such summary procedure as was advocated by some, saying that before the commission could order a general reduction it must find that it would have the effect of increasing revenues. C. A. Miller, appearing for the American Short Line Railroad Association, said that any order generally reducing rates at this time would be unlawful and that such a proceeding would be simply a waste of time.

San Francisco Transportation Club

The Transportation Club of San Francisco (Cal.) has elected for the ensuing year F. H. Hocken, president and L. L. Foley, first vice-president. Headquarters Palace Hotel.

Senate Committee Favors St. Lawrence Treaty

The Senate foreign relations committee on March 27 ordered a favorable report on the ratification of the St. Lawrence waterway treaty by a vote of 14 to 2. The committee in the last session of Congress also reported the treaty favorably but no effort was made to bring it up in the Senate.

"Meals Select"

"Meals Select," complete luncheons and dinners for 80 cents to $1.25 and breakfasts for 50 cents to 90 cents are now being served on all Southern Pacific dining cars. Under this method of serving meals, five entrees within the above price range are shown on the menu, the price including the entire meal, composed of soup, salad, entree, vegetables, bread and butter, beverage and dessert. The usual a la carte service also is available.

Further Reduction in Grade Crossing Accidents

Fewer persons lost their lives in accidents at railroad highway grade crossings in 1932 than in any year since 1916. Reports for the year made public by the Safety Section of the American Railway Association show 1,525 persons killed in such accidents. For the fiscal year 1916 the total was 1,396. The 1932 record shows a reduction of 286 or 15.8 per cent compared with 1931. Total persons injured in 1932 was 3,989, a reduction of 668. This was the third consecutive year in which there has been a reduction in this record.

British Roads to Abandon Existing Wage Procedure

Break-down in recent case results in move to discontinue present negotiations machinery

Failure of the National Wages Board of Great Britain to function effectively in the recent case involving proposed reductions of approximately 10 per cent in railway wages has resulted in a decision on the part of railways of that country to serve on their employees the required 12-month notice of the companies' desire to refrain from further participation in cases before that tribunal or the Central Wages Board, which latter has been the British railway wage tribunal of original jurisdiction. The notices, which were served March 3 on the National Union of Railwaymen, the Associated Society of Locomotive Engineers and Firemen and the Railway Clerks' Association, are in accordance with the provisions of Section 62 of the Railways Act, 1921, which set up the wage negotiation procedure as well as other machinery for employee-management contracts.

Some of the latter such as Local Departmental Committees and Sectional Councils which, a joint statement issued by the railways said, "afford facilities for discussion between companies' officers and their staff on matters of mutual interest, are generally satisfactory and there is no desire on the part of the companies to interfere with the useful work of these bodies." Also, the statement continues, "The companies do not desire to depart from their established policy of discussing labor questions with the employees, their representatives and the railway trade unions, and the companies will be prepared to consider with the unions the adoption of some more suitable form of procedure for the determination of questions relating to rates of pay, hours of duty and other conditions of service upon which there is failure to reach a mutual settlement."

The Central Wages Board and the National Wages Board, both of which the railways would discontinue, have functioned in wage cases for the past 12 years. The former, where wage cases are first heard, is composed of eight representatives of the railways and a like number of employee representatives. The National Wages Board is composed of 17 members as follows: Six representatives of the railways; six representatives of railway employees; four representatives of railway users; and an independent chairman. Of the four representatives of the railway users one is nominated by the Parliamentary Committee of the Trades Union Congress, another by the Co-operative Union; a third by the Association of British Chambers of Commerce and the fourth by the Federation of British Industries.

The recent wage case which precipitated the present situation was opened in September, 1932, when the railways sought to substitute a flat 10 per cent wage reduction for the lesser cuts ranging from 2½ to 5 per cent which were instituted early in 1931. Failure to reach a settlement

before the Central Wages Board brought the case before the National Wages Board, the members of which latter came forward on January 13 with six different reports. The representatives of the railways and those members representing the employees, in opposing reports upheld the positions of their respective principals; the member nominated by the Association of British Chambers of Commerce and the one nominated by the Federation of British Industries joined in a report upholding the railway stand while the other two representatives of railway users—the member nominated by the Parliamentary Committee of the Trades Union Congress and the nominee of the Co-operative Union—each filed a separate report, both, however, siding with the employees. The independent chairman filed a separate report holding that the railways were entitled to relief but modifying somewhat the reduced wage schedule proposed by them. Although they considered insufficient the reductions proposed in the chairman's report the railways offered to accept them but the offer was rejected by the employees. Thus the whole case has reached an impasse.

The railway statement, in outlining objections to the National Wages Board, says, "The main difficulty arises from the constitution of the Board, under which representatives of the parties sit as judges, with the result that they are put in the position of having to adjudicate upon and sign decisions on questions in regard to which they cannot be expected to hold an impartial opinion, and upon which definite views may have been expressed by them or by the parties they represent."

The provision of the Railways Act, 1921, to which the railway notice of withdrawal is directed stipulates that "until otherwise determined by twelve months' notice on either side all questions relating to rates of pay, hours of duty or other conditions of service of employees to whom this Part of this Act applies shall, in default of agreement between the railway companies and the railway trade unions, be referred to the Central Wages Board, or, on appeal, the National Wages Board, as reconstituted under this Act.

Railway Employment Statistics

For the year 1932 the average number of employees of Class I railways, including large switching and terminal companies, was 1,048,568, according to the Interstate Commerce Commissions compilation, based on the twelve monthly counts. This was a decrease of 17.96 per cent as compared with the returns for 1931. The total compensation for the year was $1,535,927,792, a decrease of 27.8 per cent as compared with 1931, and the number of hours paid for decreased 21.74 per cent. The number ranged from 1,108,691 in January to 993,541 in December.

Railroads Studying Plans for Beer Sale

Railroads and the Pullman Company are considering whether they will sell 3.2 per cent beer in wet states on dining and club cars. One of the factors upon which decision rests is the various state taxes which may prohibit the sale of beer in cars. The railroads may be forced to pay a tax on each club and dining car in each state through which the car is operated. In Illinois a tax of $100 per car has been proposed. Minnesota, on March 27, established a master tax of $25 and a tax of 25 cents on each additional car selling beer.

Labor Executives Protest Against Wage Donations

The Association of Railway Labor Executives, following a meeting in Washington, has issued a statement protesting against the practice of certain railroads in asking employees to "donate" percentages of their wages; and A. F. Whitney, chairman of the association, addressed a letter on the subject to general chairmen of the organizations saying in part: "Collective bargaining is destroyed when we permit railroad managements to disregard our agreements and call upon the membership to accept reductions in wages, whether temporary or permanent."

N. & W. Efficiency Meetings

Approximately 200 local efficiency meetings will be held by Norfolk & Western employees at 22 places on that railroad during the next 10 months, according to the schedule published in the March issue of the Norfolk & Western Magazine. The principal 1933 objectives of these N. & W. efficiency clubs, as outlined at the annual system efficiency meeting last October, are: Improved N. & W. service; intensified activity to bring about equitable competition among all transport agencies; evolution of a concrete plan of traffic development; and active participation in the election of public officials who will work for greater efficiency and economy in government.

Destructive Trucks

Editor The Times:

I am wondering why the state highway director is allowing some things to go on. The road over Snoqualmie Pass could be traveled by private cars all winter and spring and need very little repair work. Take a drive from North Bend to Hyak. In twelve hours the line of trucks allowed to travel this road—at this time—can enlarge a crack in the pavement to a "hole" three feet wide. There are several miles on the coast side of the Summit where the road, which was good in the fall, and would be good in the spring except for these heavy trucks with trailers, is just torn to pieces.

Is Washington getting enough revenue from these trucks to warrant the expense of keeping this road in repair? What kind of business efficiency is it that allows destruction of property faster than one is able to repair or financially assume? A freight car from the railroad placed on the highway could do no more damage than these trucks at this time. It is too late this year to protect the roads. They are already ruined in many places, but why do we have to go through this year after year?

I am paying, you are paying—everyone with a car—is paying, a fairly big gasoline tax for road repair. But our private cars are not destroying the road. I'm just wondering what would be done if the railroads compelled us, as individuals, to keep their tracks in repair, and yet they have just as great a right to expect that as the truck men have to expect us to repair the damage they make. E. C. STACK.

Cle Elum.

From the Seattle (Wash.) Daily Times.

General American Tank Car Corp. Gets Brewery Contracts

Refrigerator car requirements of eight brewing companies, which plan to enter the new beer market, will be supplied by the General American Tank Car Corporation, according to an announcement issued by the latter on March 30.

To give "some idea of what the beer shipments mean to railroads," the General American statement continues to point out that during the three years immediately preceding national prohibition an average of 43,000 cars of beer annually was shipped out of Milwaukee, Wis., alone. In addition to the refrigerator cars which it supplies for the service the General American has developed a special carrier for transporting beer in bulk.

Reduced Rates For Beer

The southwestern railroads moved promptly, in anticipation of the passage of the bill legalizing beer, to adjust their rates to compete with the trucks for the traffic. On March 22, the day the President signed the beer bill, J. E. Johanson, their tariff-publishing agent, applied to the Interstate Commerce Commission for permission to publish on one day's notice a new rating on beer, beer tonic, ale, porter, and stout, of 27½ per cent of first class rates. Hitherto beer has been included with cereal beverages at 32 per cent of first class rates. A memorandum with the application stated that the beer traffic would be attractive to the trucks and that if the railroads expected to be able to handle it they would have to offer lower rates.

Wabash Routes Chicago-Detroit Trains Over Pennsylvania

More than 40,000 passenger-train miles monthly will be saved by the Wabash through an agreement with the Pennsylvania whereby Wabash passenger trains between Chicago and Detroit, Mich., will be hauled in Pennsylvania trains from Chicago to Ft. Wayne, Ind. Under the new arrangement, effective April 2, the trains operated by the Wabash in both directions will be increased to three a day—a morning, an afternoon and an evening train—and they will be run on faster schedules.

Cars for the morning service out of Chicago will leave that city at 9:30 a. m. on the Pennsylvania's "New Yorker" and will arrive in Detroit over the Wabash at 3:30 p. m., a schedule of 6 hr. as compared with the present morning service of 6 hr. 35 min. The afternoon service will be in a new Pennsylvania train which will leave Chicago at 3:05 p. m. The train will

Continued on second left-hand page

Operating Statistics of Large Steam Railways—Selected Items for the Month of January, 1933,

Region, road, and year	Average miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (thousands)	Car-miles: Per cent loaded	Ton-miles (thousands): Gross, Excluding locomotives and tenders	Ton-miles (thousands): Net, Revenue and non-revenue	Average number of locomotives on line: Serviceable	Unserviceable	Per cent unserviceable	Stored
New England Region:												
Boston & Albany.....1933	402	112,469	116,466	7,375	2,771	67.9	141,019	46,661	60	52	46.3	13
1932	402	134,253	138,811	9,041	3,493	65.5	181,298	59,633	72	63	46.6	17
Boston & Maine.....1933	2,057	234,047	261,298	19,410	7,171	66.3	391,768	137,465	129	161	55.5	26
1932	2,063	268,845	306,286	28,253	8,522	67.6	454,857	164,788	163	130	44.3	35
N. Y., New H. & Hartf....1933	2,045	304,116	363,375	18,583	9,000	64.9	486,653	174,109	217	135	38.3	27
1932	2,055	351,535	420,115	23,026	11,115	63.5	610,431	220,725	229	110	32.5	17
Great Lakes Region:												
Delaware & Hudson.....1933	848	183,192	240,246	23,801	5,259	59.8	335,875	150,008	255	28	10.0	165
1932	848	213,288	274,037	28,207	6,404	60.3	406,201	183,335	251	22	8.0	150
Del., Lack. & Western.....1933	998	302,824	330,309	39,745	9,014	65.4	519,680	201,270	209	56	21.2	68
1932	998	321,111	348,722	39,158	10,195	65.7	581,520	226,064	212	57	21.3	52
Erie (incl. Chi. & Erie)....1933	2,316	565,500	584,705	41,833	21,858	60.8	1,376,171	514,318	307	185	37.7	114
1932	2,316	596,775	624,113	57,289	25,361	62.4	1,512,340	561,716	364	129	26.2	147
Grand Trunk Western.....1933	1,003	181,068	183,147	2,055	4,533	59.6	271,346	89,235	85	66	43.8	21
1932	1,021	194,172	195,817	1,628	4,871	61.7	282,848	98,860	101	46	31.4	36
Lehigh Valley 1933	1,344	336,210	348,821	29,902	9,609	63.1	575,866	222,166	174	143	45.0	21
1932	1,343	374,101	390,999	33,109	10,844	63.8	644,379	256,045	230	111	32.6	55
Michigan Central 1933	**1,965**	**339,834**	**340,116**	**9,634**	10,037	59.3	598,171	194,816	129	75	36.9	40
1932	**2,115**	**369,080**	369,637	9,429	11,159	61.1	642,048	212,201	140	84	37.6	48
New York Central.....1933	6,279	1,311,114	1,395,359	87,623	45,304	58.7	2,883,384	1,149,656	558	658	54.1	32
1932	6,200	1,425,588	1,520,565	**89,812**	**52,269**	61.4	3,162,916	1,260,811	681	711	51.1	178
New York, Chi. & St. L....1933	1,661	419,923	426,516	4,508	12,208	61.2	718,915	251,478	127	115	47.4	31
1932	**1,660**	**440,304**	463,019	5,010	13,740	60.8	802,012	278,349	169	79	31.9	60
Pere Marquette 1933	**2,286**	**305,742**	314,137	2,455	6,592	56.1	447,337	170,349	123	50	28.9	21
1932	**2,243**	**291,620**	296,053	2,986	6,911	59.8	431,478	164,040	145	33	18.4	42
Pitts. & Lake Erie.....1933	236	46,170	47,448	825	1,796	54.0	153,381	80,987	29	58	66.4	10
1932	235	52,848	54,005	812	2,151	57.2	173,412	93,804	56	35	38.6	32
Wabash 1933	2,453	462,175	469,548	8,972	13,143	62.6	747,511	239,671	183	183	49.9	28
1932	2,497	510,910	527,817	10,302	15,263	63.2	869,709	288,592	248	134	35.1	55
Central Eastern Region:												
Baltimore & Ohio.....1933	6,283	1,165,824	1,366,234	130,036	30,560	58.1	2,092,448	889,040	788	562	41.6	233
1932	6,277	1,280,743	1,458,029	146,671	35,861	59.7	2,373,400	1,021,216	934	421	31.1	306
Big Four Lines.....1933	2,787	574,129	594,108	17,179	15,751	59.2	1,063,539	482,876	266	183	40.7	11
1932	2,790	589,509	608,926	16,341	17,250	60.2	1,130,888	510,310	245	197	44.6	34
Central of New Jersey....1933	692	131,644	143,041	21,141	3,870	55.5	278,009	129,950	114	64	36.1	58
1932	692	155,600	167,446	23,681	4,434	55.5	308,305	137,976	124	54	30.4	52
Chicago & Eastern Ill.....1933	939	162,848	163,123	3,071	3,176	61.2	214,514	94,598	67	96	59.0	25
1932	939	169,870	169,870	2,015	3,817	63.2	245,272	107,317	92	68	42.3	47
Elgin, Joliet & Eastern.....1933	447	63,453	64,000	1,550	1,335	56.0	108,392	51,260	76	13	14.8	32
1932	447	76,201	78,032	2,821	1,734	57.1	139,636	68,772	84	7	8.2	29
Long Island 1933	396	27,324	28,256	12,897	283	53.5	21,548	8,667	34	12	27.2	5
1932	400	34,889	36,073	13,999	350	53.5	25,892	10,093	39	8	16.6	8
Pennsylvania System 1933	10,528	2,351,849	2,606,500	251,787	73,838	59.9	4,971,046	2,129,419	1,786	724	28.8	739
1932	10,544	2,660,728	3,005,820	291,301	87,860	61.1	5,777,405	2,464,723	2,217	330	13.0	986
Reading 1933	1,454	372,988	399,759	36,882	9,228	56.4	682,430	316,824	295	93	23.9	129
1932	1,451	425,488	457,087	44,671	11,122	57.4	810,581	378,309	320	94	22.8	98
Pocahontas Region:												
Chesapeake & Ohio.....1933	3,136	746,570	782,378	25,439	28,908	54.5	2,463,667	1,324,978	543	141	20.7	238
1932	3,136	745,391	782,929	29,262	28,780	55.8	2,406,616	1,285,855	569	94	14.3	264
Norfolk & Western.....1933	2,223	512,448	532,502	24,880	17,992	58.6	1,474,675	776,718	415	65	13.5	187
1932	2,258	543,312	570,924	24,819	18,917	60.3	1,519,541	793,518	446	37	7.6	202
Southern Region:												
Atlantic Coast Line.....1933	5,144	562,455	563,980	7,896	11,122	58.3	604,290	185,716	375	102	21.3	120
1932	5,144	618,420	619,175	8,733	12,877	58.3	709,209	224,615	383	89	18.9	97
Central of Georgia.....1933	1,900	180,825	181,550	2,634	3,609	66.7	199,429	73,018	86	54	38.9	..
1932	1,900	187,190	188,864	3,108	4,175	68.8	221,494	80,493	97	49	33.6	3
Ill. Cent. (incl. Y. & M. V.)1933	6,658	1,191,360	1,205,973	20,466	26,236	59.3	1,751,941	707,778	645	296	31.5	28
1932	6,670	1,261,573	1,271,855	20,476	29,746	59.8	1,997,758	786,190	750	164	17.9	60
Louisville & Nashville.....1933	5,166	824,987	872,862	23,665	16,836	57.1	1,177,871	533,612	343	365	51.6	83
1932	5,262	913,908	964,196	26,251	19,097	59.9	1,292,021	596,018	477	219	31.4	181
Seaboard Air Line.....1933	4,373	478,480	495,406	4,200	10,967	56.6	688,267	212,923	241	48	16.6	40
1932	4,449	496,926	509,447	6,673	11,578	59.8	687,166	218,555	260	33	11.3	36
Southern 1933	6,602	1,009,446	1,020,896	17,926	22,382	65.4	1,230,250	455,113	738	170	18.7	254
1932	6,669	1,071,282	1,083,565	18,445	24,815	65.8	1,339,972	494,519	772	173	18.3	264
Northwestern Region:												
Chi. & North Western.....1933	8,443	794,338	832,590	17,688	18,103	62.3	1,078,687	362,065	610	219	26.4	243
1932	8,443	947,902	987,645	21,924	21,657	61.5	1,286,654	444,674	663	148	18.2	229
Chicago Great Western....1933	1,463	183,007	183,211	13,659	5,000	57.3	314,546	106,658	63	38	38.0	3
1932	1,459	206,896	207,211	16,326	6,485	61.0	390,435	137,925	71	46	39.7	5
Chi., Milw., St. P. & Pac...1933	11,234	1,010,078	1,064,250	45,571	23,378	60.1	1,485,804	581,682	740	168	18.5	386
1932	11,265	1,134,755	1,201,079	64,236	27,179	59.8	1,710,271	664,388	767	149	16.3	384
Chi., St. P., Minn. & Om..1933	1,714	182,061	185,800	8,094	3,264	67.0	188,621	74,423	136	34	20.0	77
1932	1,714	216,618	233,560	10,900	4,027	63.1	240,504	103,801	146	25	14.8	73
Great Northern 1933	8,429	539,931	543,116	13,266	13,426	64.6	827,175	338,285	476	121	20.2	165
1932	8,311	550,128	555,267	16,509	14,638	66.6	872,611	368,314	467	145	23.7	154
Minneap., St. P. & S. St. M. 1933	4,314	320,286	323,160	873	5,476	66.2	309,557	127,027	135	42	23.8	17
1932	4,325	326,864	332,183	3,192	6,375	65.0	350,229	136,711	138	55	28.7	22
Northern Pacific 1933	6,404	437,373	457,191	24,320	10,716	67.5	622,108	253,459	386	136	26.1	99
1932	**6,397**	498,078	522,290	31,038	13,413	70.0	750,309	308,036	406	120	22.9	103
Oreg.-Wash. R. R. & Nav..1933	2,179	117,808	121,400	6,488	2,614	68.9	146,898	56,531	80	42	34.2	32
1932	2,219	150,071	155,979	8,794	3,363	68.5	198,535	82,609	108	21	15.9	47
Central Western Region:												
Alton 1933	952	168,345	168,765	973	3,188	56.5	210,267	71,135	58	44	43.5	12
1932	989	193,546	194,920	1,230	3,903	55.7	259,523	85,063	87	25	22.1	25
Atch., Top. & S. Fe (incl. P. & S. F.).....1933	11,612	1,166,264	1,232,874	47,163	28,633	61.5	1,726,285	561,364	665	272	29.0	275
1932	11,599	1,255,053	1,334,597	54,105	33,816	65.1	1,988,010	701,830	722	198	21.5	303
Chi., Burl. & Quincy.....1933	9,157	977,246	995,636	20,497	22,205	59.7	1,335,128	535,976	472	137	22.5	77
1932	9,250	1,035,168	1,073,094	34,894	27,809	59.2	1,689,977	730,522	531	122	18.7	58
Chi., Rock I. & Pac. (incl. Chi., Rock I. & Gulf)...1933	8,333	950,537	964,726	5,554	19,750	58.5	1,209,574	418,587	472	144	23.4	134
1932	8,342	1,055,818	1,084,693	7,699	23,810	59.5	1,450,223	514,185	537	135	20.0	154
Denver & R. G. Wn.....1933	2,514	157,747	172,759	18,911	4,001	61.5	247,854	96,244	187	45	19.4	56
1932	2,557	189,713	211,535	29,074	5,043	62.1	316,595	132,597	207	34	14.1	47
Los Angeles & Salt Lake...1933	1,240	145,304	162,969	21,886	4,235	65.0	238,814	84,698	80	26	24.6	16
1932	1,240	173,848	191,449	21,718	5,070	65.1	281,034	99,549	96	17	14.9	27
Oregon Short Line.....1933	2,467	206,382	218,817	16,702	5,012	64.5	300,302	114,534	140	44	23.7	66
1932	2,473	230,687	241,199	13,978	6,206	65.9	378,732	155,127	160	9	5.4	73
Southern Pacific—Pacific Lines 1933	8,878	838,612	884,846	73,700	23,030	63.1	1,381,332	435,554	516	358	40.9	217
1932	8,932	1,018,403	1,084,134	100,937	28,559	62.5	1,736,376	570,446	598	316	34.6	224
Union Pacific 1933	3,768	606,615	617,993	21,932	19,223	65.3	1,090,060	383,335	364	105	22.4	205
1932	3,768	706,178	724,774	30,036	24,064	65.8	1,369,160	504,066	402	59	12.8	186
Southwestern Region:												
Gulf, Colo. & S. Fe.....1933	1,943	173,569	175,815	2,589	4,063	63.2	247,663	96,805	92	30	24.8	31
1932	1,943	182,236	184,009	2,949	4,597	65.8	265,738	106,104	102	22	18.0	36
Mo.-Kans.-Texas Lines 1933	3,282	325,782	326,960	4,356	7,638	60.5	450,624	155,180	153	76	33.2	77
1932	3,282	329,973	331,797	4,802	8,661	62.3	504,342	181,316	166	58	25.7	86
Missouri Pacific 1933	7,385	968,933	994,119	23,024	23,860	60.6	1,493,396	544,538	442	143	24.4	177
1932	7,409	1,078,674	1,102,119	26,229	27,827	60.4	1,737,962	639,094	490	89	15.4	203
St. Louis-San Francisco....1933	5,193	556,046	558,808	6,227	11,365	60.4	705,730	275,102	407	70	14.7	158
1932	5,190	567,595	571,808	6,127	12,632	61.3	766,957	293,889	430	60	12.2	153
St. Louis Southwestern Lines 1933	1,902	191,684	195,353	2,668	4,427	65.5	245,431	80,176	107	24	18.0	31
1932	1,902	189,696	194,908	2,578	4,797	65.6	262,116	84,384	114	29	20.3	46
Texas & New Orleans.....1933	4,568	419,957	420,432	5,619	8,991	67.2	498,650	167,804	221	86	27.9	55
1932	4,620	475,667	476,655	1,242	10,418	64.6	602,593	209,670	248	88	26.3	60
Texas & Pacific.....1933	1,946	215,792	215,792	1,123	6,067	61.8	361,129	120,056	187	60	24.2	88
1932	1,946	274,643	274,643	1,705	7,056	60.1	426,478	134,185	180	68	27.5	59

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

Compared with January, 1932, for Roads with Annual Operating Revenues Above $25,000,000

Region, road and year		Average number of freight cars on line: Home	Foreign	Total	Per cent unserviceable	Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive-miles per locomotive-day
New England Region:														
Boston & Albany	1933	4,672	2,554	7,226	37.7	20.644	1,254	415	16.8	208	18.2	3,747	174	35.7
	1932	4,067	2,752	6,819	21.7	21,565	1,350	444	17.1	282	25.2	4,788	162	35.3
Boston & Maine	1933	11,192	5,867	17,059	22.5	23,637	1,668	596	19.2	259	20.4	2,149	116	31.2
	1932	11,255	6,806	18,061	11.9	22,890	1,697	615	19.3	295	22.6	2,585	117	36.9
N. Y., New H. & Hartf.	1933	17,070	8,450	25,520	8.5	24,556	1,600	573	19.3	220	17.5	2,746	124	35.0
	1932	16,216	11,288	27,504	5.5	24,749	1,736	628	19.9	259	20.5	3,465	113	42.1
Great Lakes Region:														
Delaware & Hudson	1933	11,996	1,751	13,747	3.8	25,497	1,833	819	28.5	352	20.6	5,706	131	30.1
	1932	11,865	2,556	14,421	3.6	25,906	1,904	860	28.6	410	23.8	6,972	128	35.7
Del., Lack. & Western	1933	19,362	3,324	22,686	10.4	25,610	1,716	665	22.3	286	19.6	6,505	152	45.1
	1932	19,483	3,506	22,989	7.2	24,973	1,811	704	22.2	317	21.8	7,306	150	46.6
Erie (incl. Chi. & Erie)	1933	36,076	9,885	45,961	5.6	38,021	2,434	909	23.5	361	25.2	7,163	108	41.1
	1932	36,634	10,422	47,056	3.6	38,199	2,534	941	22.1	385	27.9	7,824	109	44.6
Grand Trunk Western	1933	5,643	7,952	13,595	16.9	26,076	1,499	493	19.7	212	18.0	2,871	111	39.4
	1932	4,807	8,158	12,965	9.3	25,999	1,457	509	20.3	246	19.6	3,122	110	43.3
Lehigh Valley	1933	20,071	4,301	24,372	18.4	30,103	1,713	661	23.1	294	20.1	5,333	154	38.5
	1932	22,853	4,513	27,366	10.9	28,807	1,722	684	23.6	302	20.0	6,150	149	40.1
Michigan Central	1933	25,570	17,319	42,889	9.8	32,110	1,760	573	19.4	147	12.7	3,198	125	55.3
	1932	26,196	15,986	42,182	6.9	32,814	1,740	575	19.0	162	14.0	3,236	120	54.6
New York Central	1933	83,956	52,994	136,950	24.4	34,979	2,199	877	25.4	271	18.2	5,906	109	39.3
	1932	82,406	66,266	148,672	14.9	34,456	2,219	884	24.1	274	18.5	6,560	104	37.3
New York, Chi. & St. L.	1933	16,127	5,638	21,765	15.4	30,622	1,712	599	20.6	373	29.6	4,885	110	57.5
	1932	15,879	5,726	21,605	10.0	30,062	1,821	632	20.3	416	33.8	5,408	106	60.9
Pere Marquette	1933	13,598	4,538	18,136	2.8	25,782	1,463	557	25.8	303	20.9	2,403	104	59.0
	1932	13,185	3,846	17,031	3.5	24,717	1,480	563	23.7	311	21.9	2,359	98	54.1
Pitts. & Lake Erie	1933	17,675	6,664	24,339	27.2	48,832	3,322	1,754	45.1	107	4.4	11,091	126	17.8
	1932	19,518	5,958	25,476	18.5	38,485	3,281	1,775	43.6	119	4.8	12,882	106	19.4
Wabash	1933	19,828	6,882	26,710	10.0	33,437	1,617	519	18.2	289	25.4	3,152	123	42.2
	1932	19,683	7,115	26,798	4.5	32,855	1,702	565	18.9	347	29.1	3,729	121	45.4
Central Eastern Region:														
Baltimore & Ohio	1933	98,123	14,191	112,314	13.7	24,555	1,795	763	29.1	255	15.1	4,565	163	35.8
	1932	96,144	13,993	110,137	8.7	24,497	1,853	797	28.5	299	17.6	5,248	156	38.2
Big Four Lines	1933	21,218	18,033	39,251	19.0	32,391	1,852	841	30.7	397	21.9	5,589	121	44.0
	1932	23,434	17,525	40,959	10.4	31,738	1,918	866	29.6	402	22.6	5,899	122	45.6
Central of New Jersey	1933	18,150	5,703	23,853	21.5	28,156	2,112	987	33.6	176	9.4	6,058	131	29.8
	1932	18,141	6,052	24,193	15.4	26,583	1,981	887	31.1	184	10.7	6,430	153	34.6
Chicago & Eastern Ill.	1933	6,158	1,862	8,020	17.4	22,886	1,317	581	29.8	380	20.9	3,250	133	32.8
	1932	6,051	2,129	8,180	13.1	25,788	1,444	632	28.1	423	23.8	3,687	133	34.6
Elgin, Joliet & Eastern	1933	9,986	3,637	13,623	15.4	15,327	1,708	808	38.4	121	5.6	3,699	133	23.8
	1932	9,587	3,716	13,303	7.2	15,712	1,832	903	39.7	167	7.4	4,962	132	28.7
Long Island	1933	794	3,073	3,867	1.3	5,641	789	317	30.6	72	4.4	706	323	28.9
	1932	783	3,852	4,635	.6	5,811	742	289	28.8	70	4.6	813	383	34.4
Pennsylvania System	1933	251,498	39,454	290,952	9.0	31,163	2,114	905	28.8	236	13.7	6,525	138	36.7
	1932	249,008	43,640	292,648	6.5	31,002	2,171	926	28.1	272	15.8	7,540	134	41.7
Reading	1933	40,256	7,054	47,310	15.1	23,468	1,830	849	34.3	216	11.2	7,029	159	36.3
	1932	39,268	8,064	47,332	5.0	23,433	1,905	889	34.0	258	13.2	8,408	146	39.1
Pocahontas Region:														
Chesapeake & Ohio	1933	46,502	6,283	52,785	1.5	46,064	3,300	1,775	45.8	810	32.4	13,631	88	38.1
	1932	48,553	5,984	54,537	2.2	44,191	3,229	1,725	44.7	761	30.5	13,228	85	39.5
Norfolk & Western	1933	41,279	3,813	45,092	2.9	42,570	2,878	1,516	43.2	556	22.0	11,269	120	37.4
	1932	41,673	3,954	45,627	.9	41,402	2,797	1,461	41.9	561	22.2	11,337	117	39.8
Southern Region:														
Atlantic Coast Line	1933	29,294	6,299	35,593	14.3	19,700	1,074	330	16.7	168	17.3	1,165	120	38.7
	1932	29,059	7,272	36,331	6.5	20,242	1,147	363	17.4	199	19.6	1,408	118	42.9
Central of Georgia	1933	7,683	1,492	9,175	22.1	19,987	1,103	404	20.2	257	19.0	1,240	133	42.4
	1932	8,273	1,582	9,855	21.1	20,094	1,183	430	19.3	263	19.9	1,367	132	42.4
Ill. Cent. (incl. Y. & M. V.)	1933	54,721	10,859	65,580	24.0	24,158	1,471	594	27.0	348	21.8	3,429	151	42.1
	1932	54,522	11,065	65,587	13.2	24,834	1,584	623	26.4	387	24.5	3,802	145	45.6
Louisville & Nashville	1933	53,619	5,134	58,753	23.8	21,269	1,428	647	31.7	293	16.2	3,332	153	40.8
	1932	53,524	5,909	59,433	15.8	21,196	1,414	652	31.2	323	17.3	3,653	154	45.9
Seaboard Air Line	1933	13,879	5,284	19,163	4.3	23,541	1,438	445	19.4	358	32.6	1,571	124	55.8
	1932	15,438	5,516	20,954	2.8	21,619	1,383	440	18.9	336	29.8	1,584	128	56.9
Southern	1933	39,351	8,448	47,799	20.5	20,123	1,219	451	20.3	307	23.1	2,224	158	36.9
	1932	57,691	8,665	66,356	13.9	20,311	1,251	462	19.9	240	18.3	2,392	158	37.6
Northwestern Region:														
Chi. & North Western	1933	47,281	16,813	64,094	8.6	21,116	1,358	456	20.0	182	14.6	1,383	145	33.1
	1932	45,659	16,835	62,494	6.8	19,951	1,357	469	20.5	230	18.2	1,699	150	40.2
Chicago Great Western	1933	4,658	2,337	6,995	13.5	30,515	1,719	583	21.3	492	40.3	2,351	150	62.8
	1932	5,234	3,549	8,783	10.0	31,103	1,887	667	21.3	507	39.0	3,049	145	61.6
Chi., Milw., St. P. & Pac.	1933	63,466	11,451	74,917	3.2	23,234	1,471	576	24.9	250	16.7	1,670	136	39.4
	1932	65,176	11,250	76,426	2.6	22,775	1,507	585	24.4	280	19.2	1,902	138	44.6
Chi., St. P., Minneap. & Om.	1933	2,257	6,578	8,835	8.8	15,415	1,036	409	22.8	272	17.8	1,401	140	36.7
	1932	2,393	7,992	10,385	9.7	16,449	1,110	479	25.8	322	19.8	1,954	141	46.0
Great Northern	1933	44,763	7,611	52,374	4.9	23,447	1,532	627	25.2	208	12.8	1,295	148	30.1
	1932	45,232	7,329	52,561	6.3	23,141	1,586	670	25.2	226	13.5	1,430	152	30.1
Minneap., St. P. & S. St. M.	1933	20,551	2,067	22,618	3.6	15,585	967	397	23.2	183	11.9	950	133	59.1
	1932	20,800	2,511	23,311	3.4	16,586	1,071	418	21.4	190	13.6	1,020	128	56.1
Northern Pacific	1933	44,263	3,680	47,943	9.7	21,732	1,422	580	23.7	171	10.7	1,277	170	29.8
	1932	43,136	4,197	47,333	8.7	22,456	1,506	618	23.0	210	13.1	1,553	164	33.9
Oreg.-Wash. R. R. & Nav.	1933	9,065	1,695	10,760	6.9	20,611	1,247	480	21.6	169	11.4	837	161	33.9
	1932	9,321	1,815	11,136	5.2	21,136	1,323	550	24.6	239	14.2	1,201	166	41.3
Central Western Region:														
Alton	1933	5,020	3,926	8,946	15.0	25,718	1,249	423	22.3	257	20.3	2,412	142	53.7
	1932	4,269	3,255	7,524	4.2	25,787	1,341	439	21.8	365	30.1	2,775	128	56.5
Atch., Top. & S. Ft (incl. P. & S. F.)	1933	69,248	7,502	76,750	9.9	27,572	1,480	481	19.6	236	19.6	1,559	121	44.0
	1932	69,268	9,812	79,080	9.1	28,320	1,584	559	20.8	286	21.2	1,952	119	48.7
Chi., Burl. & Quincy	1933	44,843	10,535	55,378	9.2	23,813	1,366	548	24.1	312	21.7	1,888	133	53.8
	1932	47,112	11,326	58,438	6.3	25,170	1,633	706	26.3	403	25.9	2,547	134	54.8
Chi., Rock I. & Pac. (incl. Chi., Rock I. & Gulf)	1933	42,347	9,613	51,960	16.1	21,994	1,273	440	21.2	260	21.0	1,620	152	50.8
	1932	42,115	11,134	53,249	10.6	21,940	1,374	487	21.6	311	24.3	1,988	152	52.4
Denver & R. G. Wn.	1933	13,917	2,978	16,895	4.4	22,741	1,571	610	24.1	184	12.4	1,235	191	26.6
	1932	13,593	3,398	16,991	3.9	22,130	1,669	699	26.3	252	15.4	1,673	189	32.3
Los Angeles & Salt Lake	1933	4,975	1,095	6,070	6.7	28,474	1,644	583	20.0	450	34.6	2,203	153	56.3
	1932	5,059	1,112	6,171	3.0	26,816	1,617	573	19.6	520	40.7	2,590	156	61.2
Oregon Short Line	1933	10,210	3,345	13,555	9.6	23,363	1,455	555	22.9	273	18.5	1,498	134	41.3
	1932	9,473	5,069	14,542	6.9	25,262	1,642	672	25.0	344	20.9	2,024	129	48.7
Southern Pacific—Pacific Lines	1933	41,669	20,210	61,879	12.5	26,886	1,647	519	18.9	227	19.0	1,583	124	35.4
	1932	45,202	22,786	67,988	11.4	26,362	1,705	560	20.0	271	21.7	2,060	131	41.8
Union Pacific	1933	25,474	6,689	32,163	20.3	32,759	1,797	632	19.9	384	29.5	3,282	124	44.0
	1932	24,894	7,334	32,228	8.7	38,323	1,939	714	20.9	505	36.6	4,315	129	52.8
Southwestern Region:														
Gulf, Colo. & S. Fe	1933	14,209	1,819	16,028	5.5	24,200	1,427	558	23.8	195	12.9	1,607	118	47.0
	1932	14,809	1,749	16,558	2.7	23,417	1,458	582	23.1	207	13.6	1,761	114	48.4
Mo.-Kans.-Texas Lines	1933	10,766	2,577	13,343	5.1	24,317	1,383	476	20.3	375	30.5	1,525	101	46.6
	1932	12,263	2,626	14,889	5.0	25,427	1,528	549	20.9	393	30.1	1,782	103	48.6
Missouri Pacific	1933	27,421	13,750	41,171	14.7	27,091	1,541	562	22.8	427	30.9	2,379	141	56.1
	1932	31,612	11,007	42,619	12.2	26,810	1,611	592	23.0	484	34.9	2,783	130	62.8
St. Louis-San Francisco	1933	27,241	3,914	31,155	5.2	21,412	1,269	495	24.2	285	19.5	1,709	145	38.2
	1932	28,722	5,030	33,752	3.2	21,133	1,351	518	23.3	281	19.7	1,827	143	38.0
St. Louis Southwestern Lines	1933	4,608	1,810	6,418	12.4	23,994	1,280	418	18.1	403	34.0	1,360	119	48.8
	1932	6,044	2,532	8,576	9.7	23,441	1,382	445	17.6	317	27.5	1,431	120	44.6
Texas & New Orleans	1933	9,495	10,858	20,353	5.8	20,029	1,187	400	18.7	266	21.2	1,185	101	44.7
	1932	12,855	9,922	22,777	7.7	20,228	1,267	441	20.1	297	22.8	1,464	104	45.8
Texas & Pacific	1933	5,943	3,902	9,845	8.6	26,277	1,674	556	19.8	393	32.2	1,991	86	28.3
	1932	6,288	3,663	9,951	11.7	24,983	1,553	489	19.0	435	38.0	2,225	94	35.9

arrive in Detroit over the Wabash at 9:05, p. m., or on a schedule of 6 hr. Cars for the night service will leave Chicago at 11:45 p. m. on the Pennsylvania "Southland" and will arrive in Detroit at 7:00 a. m. (all central time).

Westbound, a train will leave Detroit over the Wabash at 12:10 p. m., eastern time, and the cars will be put into the Pennsylvania's Mercantile Express at Ft. Wayne for Chicago where they will arrive at 5:30 p. m., or in 6 hr. 20 min. The afternoon train will leave Detroit at 3:15 p. m., eastern time, and will arrive in Chicago as part of the Pennsylvania's "Union" at 8:05 p. m., central time, a schedule of 5 hr. 50 min. The night train from Detroit will leave at 12:30 a. m., eastern time, and will arrive in Chicago as part of the Pennsylvania's "Southland" at 7:35 a. m.

The morning and afternoon trains will have reclining chair cars, parlor cars with club and lounge facilities, and dining cars. The night trains will have coaches, sleeping cars and buffet-club lounge cars.

Mileage Books Popular in West

While figures on the sale of mileage books are not available from all of the western railroads for February, the record of the Chicago & North Western is significant, this railroad having sold books to the value of $65,000 with a mileage totaling 2,500,000. Reports from agents show that a refrigerator concern in Detroit has instructed its men to purchase mileage books and use the railways instead of automobiles. A salesman, traveling 50,000 miles a year between Chicago and Omaha, Neb., and Texas points and carrying 500 lb. of baggage, returned to rail travel. A traveling salesman in Oak Park, Ill., is using the railroads for the first time. A patron in Dixon, Ill., expects to use 40 books a year. At Huron, S. D., several salesmen exchanged their tickets for mileage books. A company in Madison, Wis., purchased five books.

Lower Silk Rate Proposed

Western railroads have docketed a proposal with the Transcontinental Freight Bureau seeking to establish a fast freight train carload rate of $3.50 per 100 lb., on silk from Pacific Coast ports to New York, with a minimum weight of 30,000 lb. The proposal also provides for authority to increase the passenger train rate on silk from $6 to $7 per 100 lb. The plan of moving silk on freight trains at the lower rate will afford the carriers an opportunity to compete with water movement by way of the Panama canal, without making further reductions in the passenger train rate. In November, 1931, the carriers reduced the passenger rate from $9 to $6, thus making the water and rail rate from Yokohama to New York $12, or approximately the same as the all-water rate through the Panama canal.

Coal and Lumber Associations Ask Cancellation of Surcharge

The National Coal Association and the National Lumber Manufacturers' Association have petitioned the Interstate Commerce Commission to require cancellation of the emergency freight rate surcharge, which the commission recently authorized to be continued for an additional six months, on the ground that the railroads have refused to pool and loan the proceeds.

The commission in its report, expressed the opinion that the plan of making loans from the proceeds through the Railroad Credit Corporation should be continued but did not require it by order, and the railroads have notified the commission of their intention to discontinue the loaning plan. This is on the ground that for the next six months the surcharge is estimated to amount to only some $30,000,000, while most of the roads that would contribute to a loan pool would have to apply in turn for loans to meet interest requirements.

Automobile Accidents in 1932

The Travelers Insurance Company, Hartford, Conn., has recently issued a booklet entitled "They Call Us Civilized" which, in dramatic fashion, calls attention to the toll in human lives taken by automobile accidents. The booklet, referring particularly to the year 1932 when 29,000 persons were killed in automobile accidents, presents its statistics in both graphic and tabular form and includes considerable discussion of the figures as well.

One table listing motor vehicle accidents in 1932 shows that of 745,300 accidents last year only 4,020 or 0.54 per cent were caused by collisions of highway vehicles with railroad trains; of the 29,000 persons killed, 1,140 or 3.9 per cent met their deaths in such collisions. Collisions with pedestrians accounted for 39.07 per cent of the accidents and 44 per cent of the deaths in 1932 while collisions between automobiles were responsible for 43.45 per cent of the accidents and 24.7 per cent of the deaths.

Montreal-Toronto-Ottawa Trains Pooled

The Canadian Pacific and Canadian National have agreed in principle to pooling of competitive passenger services wherever practicable, according to an announcement made jointly last week by the two roads. Detailed arrangements for making the pool effective, it is said, will take some time to complete, but in order to effect immediate economies the companies have arranged for a partial pooling of passenger service between Montreal and Toronto, and the pooling of all passenger service between Ottawa and Toronto; these consolidations to be effective on Sunday, April 2. An economy of well over $500,000 per year will result from these initial developments in the pooling arrangements.

Under the plan, effective April 2, the fast afternoon train service between Montreal and Toronto will be consolidated. Instead of the two fast trains each way daily, there will be one afternoon pool train in each direction. The westbound pool train will leave the C. P. R.'s Windsor station, Montreal, at 3.15 p. m., and travel over Canadian Pacific tracks to Dorval, where it will cross over to the Canadian National line for the balance of its journey to Toronto, which will be reached at 9.45 p. m. Westbound this pool train will make all its present stops, and at Brockville it will connect with a pool train scheduled to leave Ottawa at 3.15 p. m.

The eastbound afternoon pool train will leave Toronto by Canadian National at 3.30 p. m., and will arrive at the C. N. R.'s Bonaventure station, Montreal, at 10.00 p. m. At Brockville, a pool train for Ottawa will connect with this train, the passengers using this service arriving at Ottawa at 10.10 p. m.

The trains in this service will be designated and advertised as pool trains and the tickets issued by either company will be honored on them.

Between Ottawa and Toronto the Canadian National will pool its day and night trains with the Canadian Pacific. The pooled night service for the traffic of both lines will be over the tracks of the Canadian Pacific via Peterboro. The Canadian Pacific will maintain its morning service between Ottawa and Toronto and accept through tickets of both companies on these trains. The Toronto-Ottawa afternoon service, as already stated, will be on the pooled trains via Brockville.

Safety Section April Circular

The Safety Section of the American Railway Association, C. E. Hill, chairman, in its circular for the attention of railway safety departments during the month of April, gives special attention to the record of casualties to trainmen while getting on or off cars or locomotives. Under this one item, the record for the 12 months of 1931 shows 24 killed and 1,795 injured; to which must be added other employees to the number of four killed and 84 injured. These other employees presumably were not required by their duties to take the risk of boarding or leaving moving trains. The exhortation of the circular is a simple one: Do not attempt to get on or off when the car or locomotive is moving too fast, nor otherwise take any unnecessary chance. The total number killed in 1931 (24) is 39 per cent less than in 1930, and the number of injured is 34 per cent less. The number per 10,000 trainmen in service, in 1931, was 1.0 killed and 73.6 injured; in 1930 this ratio was 1.4 killed and 95.4 injured.

Southern Offers Train Travel Bargains for April

Train travel bargains to be offered by the Southern during the month of April include special fare concessions for trips to Washington, D. C., during "cherry blossom time," and reduced-rate round-trip tickets and one-cent-per-mile fares for the Easter holidays. These bargain rates are now being publicized with the same novel attention-arresting circulars with which the Southern has for some time been merchandizing its passenger service.

The reduced-rate tickets, including also reduced Pullman rates, for visits to Washington during the time when the Japanese cherry trees are in bloom are to be sold from points in North and South Carolina and Virginia on April 1 and April 8 with respective return limits of April 2 and April 9 "unless ticket is extended as provided in the 'New Deal' extension arrangement." This "New Deal" arrangement of the Southern was outlined in the *Railway Age* of February 4, page 193;

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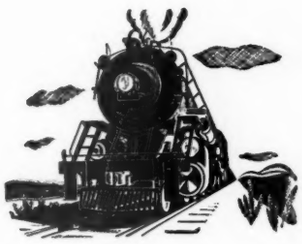
EFFICIENT RAILROADING

necessitates

NEW POWER



Freight Locomotives, 25 years old, belong to a bye-gone day. The old locomotive is no longer adequate to carry out modern operating policies. Today's high speeds and heavy loadings make old power obsolete.

Scrap it before it wastes more railroad dollars.

LIMA LOCOMOTIVE WORKS, INCORPORATED

LIMA OHIO

it permits an extension, not exceeding five days, of the time limit on special reduced-fare round-trip tickets upon payment of $1 additional for each day of such extension.

For the Easter holidays the Southern will sell round-trip tickets for the amount of the one-way fare plus $1, such tickets to be on sale April 10 to 13 with return limits of 15 days in addition to the date of sale. This set-up also includes reduced Pullman rates and stop-over privileges as well.

The one-cent-per-mile tickets are offered for a "Spring tonic train ride!" and will be on sale on the Easter week-end—April 14 and 15—with a return limit of April 22.

Freight Surcharge in New York

The New York State Public Service Commission has authorized continuance of the emergency surcharges on freight until May 15, 1933, except as applied to cabbage, fertilizer, fertilizer material, animal feed and poultry feed. These emergency charges were scheduled to expire March 31, 1933, and the Interstate Commerce Commission has authorized the roads to continue them until September 30, 1933. The present order is intended to allow a reasonable time for the purpose of making such rate changes as appear necessary in view of the impending discontinuance of the surcharges.

The Public Service Commission says that the surcharges have failed to meet the situation and in some cases have resulted in rates upon which traffic will not move; and the exemption of cabbage, fertilizer and livestock feed is ordered because of protests received. The Commission concludes that these charges should be removed but has permitted them to remain in effect until May 15, 1933, as an abrupt termination would doubtless work severe hardship in many instances.

If Highway Operators Had to Build Their Own Roads

A series of articles dealing with the question of subsidized highway and water transportation agencies is being sent by railway employees in Florida to political leaders, county and state officers, civic clubs, business executives and others to familiarize them with transportation problems. The first article, entitled, "If Truck and Bus Operators Had to Build Their Own Roads as the Railroads Do" and written by A. H. Reeder, auditor of freight accounts of the Florida East Coast, is a study of automobile competition with rail carriers and illustrates the results which would be brought about if the discrimination against the rail lines were removed by placing both forms of transportation on an equal basis, so far as the cost of their major facility, roadway, is concerned. The article calls attention to an investment of $254,962,124 in railroad property in the state, as compared with an investment of $110,000,000 in highways, exclusive of county and district roads. The article also shows that $58,680,000 would have to be invested in highways to make them strong enough to bear heavy trucks and buses. If these carriers had to earn interest on this additional investment at the rate of six per cent per annum, they would have to obtain approximately $3,520,800 every year just to pay interest. Using the 1930 figures as an annual average rate, the article continues, it would require the total tax accruals of these carriers for a period of approximately 113 years to compensate the state for the extra expense caused by having to build stronger roads.

The article was first mailed by the Railway Employees' League of St. Augustine to newspapers, state senators and representatives and other persons. Copies of the paper were also given to the Railway Employees' League of Florida at Jacksonville, the Railway Employees' League of Lake City, the Railway Employees' League of Pensacola and the Railway Employees' League of Tampa, which organizations also distributed the story throughout their territories.

Rates Prescribed for Butter, Eggs, and Poultry

Freight rates of 60 per cent of first class on butter, eggs, and dressed poultry, and 65 per cent on live poultry, in carloads, were found to be maximum reasonable rates for application between points in western trunk line territory and from points in that territory to official territory, in a report made public by the Interstate Commerce Commission on March 23 on a complaint filed by the National Poultry, Butter & Egg Association et al. Between points in official territory the commission found rates 5 per cent higher to be reasonable. The railroads had asked that third class rates be approved, which would be 70 per cent of the first class rates in the eastern and western trunk line class rate revisions. The present rates are 60 and 65 per cent of first class on dairy products and live poultry in western territory and third class in official territory. Commissioner Eastman, concurring, said he believed it would be difficult for the carriers to maintain the prescribed maximum rates in competition with trucks.

Variety in Commutation Tickets

The Long Island, beginning with May 1, will install for a three-months experimental period numerous reductions of fare in New York suburban territory with the hope of attracting passengers who have been using other means of travel or who have been staying at home. The company has already taken off some trains on comparatively short runs, on which the travel was very light, but states that these trains can be quickly restored if the reduction in fares should result in an increase of passengers.

Discontinuing special week-end fares now in effect, there will be a new one-day round-trip ticket at a reduction of about 40 per cent from regular fares. These tickets will not be accepted on trains in the rush hours.

Round-trip tickets good for 30 days will be sold at about 20 per cent under regular fares; a ten-trip ticket, good for bearer, and usable within six months will be sold at a rate a little less than that of 20-trip family tickets, and a little more than the 50-trip family rate. Individual commutation tickets will be offered to regular travelers who cannot use 60 trips in a month; one a 12-trip weekly ticket (not good on Sundays) at a rate slightly higher than the 60-trip ticket; and a 20-trip ticket, good for the calendar month, which will be at a rate a little higher than that of the 60-trip and 12-trip tickets.

Agreement Near on Motor Transport Bill

Representatives of the railways, the electric railways, motor truck and bus operators and the state railroad commissions have been holding a series of conferences in Washington in an effort to reconcile their differences on various features of a bill providing for regulation of motor vehicle highway transportation. Early in the week they reported that satisfactory progress was being made toward a general agreement with very little reservation on the part of the various interests.

The bill covers both truck and bus operations and provides for the exercise of regulatory functions by the Interstate Commerce Commission through joint boards of state commissioners. The commission would be given power to require uniform accounts and reports and impose requirements as to safety of operation. Certificates would be required for operation by common carriers and permits would be required for contract carriers. Provision is made for the filing of rates and adherence to published tariffs, prescription of rates by the commission on complaint or suspension of tariffs by the commission, in the case of common carriers. Contract carriers would be required to file tariffs and the commission would be given power to suspend them temporarily for investigation. Penalties are proposed for rebates or unlawful concessions.

Economic Equality Urged for Transportation Agencies

That "the United States does not have either a national transportation *system* or a national transportation *policy*," was the conclusion reached by Harold G. Moulton, president of the Brookings Institution, in a radio discussion at Washington on March 25. He contended that our various types of transportation agencies have developed in haphazard fashion and are regulated in the light of no consistent principles, with the result that we have a great excess of transportation capacity and unnecessarily high transportation charges. Mr. Moulton, whose comprehensive investigation, conducted under the auspices of the National Transportation Committee, was recently published, asserted that the various federal agencies concerned with transportation are scattered through many departments of government and often conflicting in purpose. He stressed the need of a unification of all regulatory agencies under the Interstate Commerce Commission.

The basic problem of national policy in connection with transportation, he stated, is "to place all transportation agencies on a plane of *economic equality* in order that we may make certain that traffic will be automatically moved over that agency which can render service at lowest cost." Mr.

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LOWER MAINTENANCE AND LESS FUEL . . result from applying the BOOSTER

"With the Booster-equipped light Pacifics we were able to handle trains on a shorter schedule than with the heavy Pacifics due to more rapid acceleration. In addition, the numerous complaints which had been made on account of rough handling were eliminated. The economies effected were in reduction of fuel consumption and reduction in maintenance and on trains where the Booster light Pacific replaced the non-booster heavy Pacific there was a saving of 15% in fuel and 10% in maintenance."

—Supt. of Motive Power of Western Road.

Intensive power production calls for the incorporation of The Locomotive Booster in the design of every locomotive—large and small—old and new. In no other way can you get the greatest work out of every pound of metal. « Unless a locomotive has a Booster, it must be built heavier in order to get the required tractive power to start the load it can haul at speed. « Once underway, such a locomotive carries excess weight. It is not loaded to capacity. It has a pair of drivers which could be dispensed with, as far as hauling ability is concerned. « Contrast this with a Booster-equipped engine loaded according to capacity at speed. The Booster is cut in only when needed. It uses idle weight and spare steam for starting, accelerating and to maintain speed on grades. « Greater tonnage is hauled, resulting in lower operating costs.

THE LOCOMOTIVE BOOSTER

FRANKLIN RAILWAY SUPPLY CO., INC.

NEW YORK CHICAGO MONTREAL

Moulton pointed out that if any particular type of transportation agency is given special advantages traffic may thereby be diverted to the less economical type of transportation agency.

Mr. Moulton stated that the conflicting policies of the government with reference to transportation were largely the result of a "persistent fear of railroad monopoly." He concluded that "since our capacity to protect the public interest through regulation of large transportation companies has been demonstrated in practice," there is no longer any need for the subsidizing of competing forms of transportation for regulatory purposes. Every form of transportation should stand on its own feet, with competition in a free field deciding the issue of survival.

Pacific Northwest Shippers' Board

While car loadings in the Pacific Northwest will decrease approximately 11 per cent during the second quarter of 1933 as compared with the same quarter of 1932, according to the reports of the commodities committees at the twenty-fourth regular meeting of the Pacific Northwest Advisory Board at Seattle, Wash., on March 24, car loadings in basic industries will show an increase. The anticipated loadings total 139,128 cars as compared with 157,768 cars in the second quarter of 1932. Five of the 32 general classifications of freight will show increased car loadings as follows: Furniture, 15.4 per cent; lumber and forest products, 2.3 per cent; packing house products, 7.3 per cent; fresh vegetables, 27.9 per cent; and wool, raw and manufactured, 67.1 per cent.

Louis B. Schwellenbach, who spoke on a Stabilized Transportation Industry advocated strong and efficient regulation of all classes of transportation, reasonable rates contingent upon the investment and cost of operation of each class of transportation, the elimination of duplicate service, and the substitution of a director of transportation to succeed the Interstate Commerce Commission. He also favored equalization of tax burdens and charging highway transportation a reasonable rental. He also favored regulation of transportation finances.

Report of Bureau of Explosives

Colonel B. W. Dunn, chief inspector of the Bureau for the safe transportation of explosives and other dangerous articles, in his annual report for the calendar year 1932, recently issued from his office, 30 Vesey Street, New York City, says that all dangerous explosives offered the railroads in the United States and Canada during the year were transported with a safety record of 100 per cent; no deaths, no injuries and no property loss. The total quantity of explosives transported in 1932 was about 100,000 tons, which is two-thirds of the total for the year preceding and less than half the total for 1929. No loss of life has been reported in the handling of explosives on the railroads for the past eight years.

Including "other dangerous articles" the year 1932 showed 607 accidents, two persons killed and 19 injured; property loss $372,599.

Of the property loss in 1932, gasoline accounts for $339,186. The report contains the usual detailed tables, including the circumstances of the 17 gasoline tank-car fires included in the record.

The number of inspections of freight stations made by the bureau in 1932 was 5,690; boxes of high explosives condemned as unsafe, 980; cars in transit found showing serious violations of regulations, 22; cars inspected, containing dangerous articles other than explosives, 11,900.

Revision of Salt Rates Proposed

A general revision of freight rates on salt throughout the country is proposed by Examiner E. J. Hoy of the Interstate Commerce Commission in a proposed report on Part 13 of the general rate structure investigation under the Hoch-Smith resolution, made public on March 24. He recommends that the commission should find that for the future maximum reasonable rates on common salt in carloads between points in official territory, will be 17.5 per cent of the present first-class rates to and from the same points on bulk salt, and 25 per cent on package salt and mixed carloads of bulk and package salt. Between points in southern territory and from points in official territory to points in southern territory he recommends rates 16 and 22.5 per cent respectively of the first-class rates, and from points in southwestern and western trunk line territory to points in southern territory the same percentages plus certain differentials. Between points in western trunk line territory and from points in central freight association, Illinois and southwestern territories to points in western trunk line territory rates of 17.5 per cent and 22.5 per cent are recommended with some exceptions. The examiner also recommends that reparation should be denied in all of the complaint cases combined with the investigation in which there has been a hearing with respect to the reasonableness of the rates in the past, with some exceptions.

Financial Position of C. N. R.

Canadian National finances, as they are related to the Dominion treasury, were dealt with in the annual budget presented to the House of Commons at Ottawa last week by Hon. Edgar N. Rhodes, Minister of Finance. Of more importance than the disclosure of the serious financial position of the road was the intimation that before the end of this session special legislation would be introduced to take care of the operating deficit of the road. This is taken to mean that a special tax will be levied on the Canadian people and earmarked to take care of the deficit of the road. It is believed the government feels this to be a good method of impressing upon the people the cost of the publicly-owned road and the need of practising rigid economy.

Regarding the financial position Mr. Rhodes said: "All the money required for the Canadian National Railways in 1932 was provided from the dominion treasury.

"It is well-known that as regards the volume of railway traffic, this year was very disappointing. Taking the system as a whole gross operating revenue suffered a decline of 19 per cent or over $39,000,000 as compared with the previous year. Notwithstanding that the management paralleled this decrease of $39,000,000 in revenues by a reduction of $44,000,000 in operating expenses, the net financial result for the year, after absorbing fixed charges due the public and exchange premium, was only slightly more favorable than in 1931. The dominion was required to provide in cash $60,058,506 for deficits, as compared with $60,968,438 in the previous year. These figures are for the whole system, including eastern lines, and take no account of interest amounting to $35,500,000 accrued in the accounts of the railways, but not paid, on loans by the government to the company.

"In addition to provision for deficits, cash must also be furnished for debt retirement and capital expenditures. The former are, of course, fixed and uncontrollable. Capital expenditures, however, have been drastically curtailed, the net in 1932, after crediting equipment retirements, amounting to $799,158, as compared with a corresponding figure of $34,373,262 in 1931.

"The following statement gives a comparison of the financial requirements of the system for 1932, as compared with the budget estimates:

	Actual 1932	Budget 1932
Deficit—		
System (ex. eastern lines)	$53,422,661	$42,784,610
Eastern lines	6,635,845	6,217,400
Total	$60,058,506	$49,002,010
Capital expenditures	799,158	7,033,738
Debt retirement	11,510,178	11,681,652
Discount on securities issued	.....	.....
	$72,367,842	$67,717,400
Less working capital available	4,231,997	.....
Amount required	$68,135,845	$67,717,400

"Of the total of $72,367,842 required by the railways in 1932, $4,231,977, it will be seen, was secured from the working capital funds of the company; the balance of $68,135,845 was furnished by the government—$6,635,845 by payment of the deficit on the eastern lines as a charge on the consolidated revenue fund, and $61,500,000 by loan to the company under authority of the Canadian National Railways Financing and Guarantee Acts, passed at the 1932 session. The whole of the amount authorized was paid.

"As at March 31, 1933, the funded debt of the Canadian National due the public will amount to about $1,263,000,000, having been reduced by $11,000,000 in the past year. Of the amount outstanding, $965,000,000 bears the guarantee of the Dominion."

Meetings & Conventions

The following list gives names of secretaries, date of next or regular meetings and places of meetings.

AIR BRAKE ASSOCIATION.—T. L. Burton, Room 5605, Grand Central Terminal Building, New York City.

ALLIED RAILWAY SUPPLY ASSOCIATION.—F. W. Venton, Crane Company, 836 S. Michigan Ave., Chicago. To meet with Air Brake Association, Car Department Officers' Association, International Railroad Master Blacksmiths' Association, International Railway

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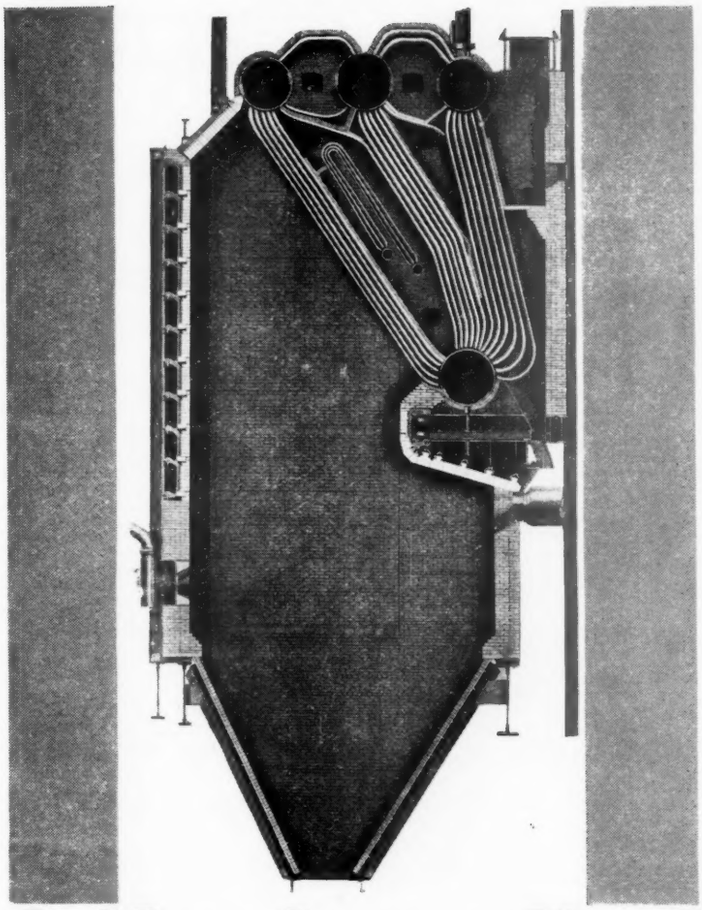

A typical installation of six 2,000 H.P. boilers fired with a combination of blast furnace gas and pulverized coal, equipped with American sectionally supported air cooled walls and suspended arches.

Where Service Is Most Severe, You Find AMERICAN ARCHES

NOT only in a majority of all locomotives but also in steel plants, oil refineries, public utilities and wherever combustion problems are most severe you will find the products of American Arch Company.

American Arch Company's reputation as combustion specialists has spread throughout all industry.

Heating furnaces in the country's greatest steel plants have roofs designed by American Arch Company experts.

Oil still arches and air-cooled side walls by American Arch Company are used in the leading oil refineries. The largest units in the world are so equipped.

Boiler furnaces have turned to American Arch Company for air-cooled side walls and arches, including the biggest units of any railroad power plant.

This counsel on combustion problems, so widely acclaimed throughout industry, has been at the service of the railroads for twenty-two years.

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INCORPORATED
NEW YORK CHICAGO

Fuel Association, International Railway General Foremen's Association, Master Boiler Makers' Association and the Traveling Engineers' Association.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, F. T. R., M. & O. R. R., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. L. Duncan, 332 S. Michigan Ave., Chicago.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—W. C. Hope, C. R. R. of N. J., 143 Liberty St., New York.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, 1506 Missouri Pacific Building, St. Louis, Mo. Annual meeting, June 13-15, 1933, Cleveland, Ohio.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C. I. & L. Ry., 836 Federal St., Chicago.

AMERICAN ELECTRIC RAILWAY ASSOCIATION.—(See American Transit Association.).

AMERICAN RAILWAY ASSOCIATION.—H. J. Forster, 30 Vesey St., New York, N. Y.

Division I.—Operating.—J. C. Caviston, 30 Vesey St., New York.

Freight Station Section.—R. O. Wells, Freight Agent, Illinois Central Railroad, Chicago.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York. Next meeting, June 26-27, 1933, Hotel La Salle, Chicago, Ill.

Protective Section.—J. C. Caviston, 30 Vesey St., New York. Next meeting, July 12-13, 1933, Hotel Stevens, Chicago, Ill.

Safety Section.—J. C. Caviston, 30 Vesey St., New York. Next meeting, October 3-5, 1933, Hotel Stevens, Chicago, Ill.

Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York. Annual meeting, June 13-15, 1933, Hotel Stevens, Chicago, Ill.

Division II.—Transportation.—G. W. Covert, 59 E. Van Buren St., Chicago.

Division III.—Traffic.—J. Gottschalk, 143 Liberty St., New York.

Division IV.—Engineering.—E. H. Fritch, 59 E. Van Buren St., Chicago. Exhibit by National Railway Appliances Association.

Construction and Maintenance Section.—E. H. Fritch, 59 E. Van Buren St., Chicago.

Electrical Section.—E. H. Fritch, 59 E. Van Buren St., Chicago.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York. Next meeting, May 9-10, 1933, Hotel Roosevelt, New York, N. Y.

Division V.—Mechanical.—V. R. Hawthorne, 59 E. Van Buren St., Chicago.

Equipment Painting Section.—V. R. Hawthorne, 59 E. Van Buren St., Chicago.

Division VI.—Purchases and Stores.—W. J. Farrell, 30 Vesey St., New York.

Division VII.—Freight Claims.—Lewis Pilcher, 59 E. Van Buren St., Chicago. Annual meeting, June 6-8, 1933, Brown Hotel, Louisville, Ky.

Division VIII.—Motor Transport.—George M. Campbell, 30 Vesey St., New York.

Car Service Division.—C. A. Buch, 17th and H Sts., N. W., Washington, D. C.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, C. & N. W. Ry., 319 N. Waller Ave., Chicago.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—J. A. Senter, Ind. Agt., N. C. & St. L. Ry., Nashville, Tenn. Annual meeting, June, 1933, Kansas City, Mo.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in co-operation with the American Railway Association, Division IV.—E. H. Fritch, 59 E. Van Buren St., Chicago, Ill. Exhibit by National Railway Appliances Association.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Miss E. Kramer, M-K-T Employees Magazine, St. Louis, Mo.

AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—G. G. Macina, C., M., St. P. & P. R. R., 11402 Calumet Ave., Chicago. Exhibit by Tool Foremen Suppliers' Association.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—R. E. Schindler, Union Trust Building, Washington, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Calvin W. Rice, 29 W. 39th St., New York. Railroad Division, Marion B. Richardson, Ahrens & Richardson, 30 Church St., New York.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1104 Chandler Building, Washington, D. C. Annual meeting, 1934, Houston, Tex.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—H. D. Morris, District Claim Agent, Northern Pacific Ry., St. Paul, Minn. Annual meeting, June 21-23, 1933, Hotel Sherman, Chicago.

ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.—Jos. A. Andreucetti, C. & N. W., Room 411, C. & N. W. Station, Chicago. Exhibit by Railway Electrical Supply Manufacturers' Association.

ASSOCIATION OF RAILWAY EXECUTIVES.—Stanley J. Strong, Transportation Building, Washington, D. C.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—S. A. Baber, High Grade Manufacturing Co., 10418 St. Clair Ave., Cleveland, Ohio. Meets with American Railway Bridge and Building Association.

CANADIAN RAILWAY CLUB.—C. R. Crook, 2276 Wilson Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month, except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—A. S. Sternberg, M. C. B. Belt Ry. of Chicago, 7926 S. Morgan St., Chicago.

CAR FOREMAN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 2514 W. 55th St., Chicago. Regular meetings, second Monday of each month, except June, July and August, Auditorium Hotel, Chicago.

CAR FOREMEN'S ASSOCIATION OF LOS ANGELES.—J. W. Krause, Room 299, 610 S. Main St., Los Angeles, Cal. Club not active at present time.

CAR FOREMEN'S ASSOCIATION OF ST. LOUIS, MO.—J. F. Brady, Main and Barton Sts., St. Louis, Mo. Operation suspended indefinitely.

CENTRAL RAILWAY CLUB OF BUFFALO.—M. D. Reed, 1817 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

CINCINNATI RAILWAY CLUB.—D. R. Boyd, 2920 Utopia Place, Hyde Park, Cincinnati, Ohio. Operation suspended indefinitely.

CLEVELAND RAILWAY CLUB.—F. L. Frericks, 14416 Alder Ave., Cleveland, Ohio. Regular meetings second Monday of each month, except June, July and August, Auditorium, Brotherhood of Railroad Trainmen's Building, W. 9th St. and Superior Ave., Cleveland.

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich.

INTERNATIONAL RAILWAY FUEL ASSOCIATION.—T. D. Smith, 1660 Old Colony Building, Chicago.

INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—Wm. Hall, 1061 W. Wabasha St., Winona, Minn.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—James B. Walker, 270 Madison Ave., New York. Annual meeting, October 10-13, 1933, Cincinnati, Ohio.

NATIONAL ASSOCIATION OF RAILROAD TIE PRODUCERS.—(See Railway Tie Association.)

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. W. Kelly, Suite 322, 910 S. Michigan Ave., Chicago. Exhibit at A. R. E. A. convention.

NATIONAL SAFETY COUNCIL.—Steam Railroad Section (see Safety Section, American Railway Association).

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Statler, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York. Regular meetings, third Friday of each month, except June, July and August, 29 W. 39th St., New York.

PACIFIC RAILWAY CLUB.—W. S. Wollner, P. O. Box 3275, San Francisco, Cal. Regular meetings, second Thursday of each month, alternately in San Francisco and Oakland.

RAILWAY ACCOUNTING OFFICERS' ASSOCIATION.—E. R. Woodson, Transportation Building, Washington, D. C.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton (Treas. and Asst. Sec.), First National Bank Building, Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 1841 Oliver Building, Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRICAL SUPPLY MANUFACTURERS ASSOCIATION.—Edward Wray, 9 S. Clinton St., Chicago. Meets with Association of Railway Electrical Engineers.

RAILWAY FIRE PROTECTION ASSOCIATION.—R. R. Hackett, Baltimore & Ohio R. R., Baltimore, Md. Annual meeting, October 17-19, 1933.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1841 Oliver Building, Pittsburgh, Pa. Meets with Mechanical Division, Purchases and Stores Division, and Motor Transport Division, American Railway Association.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York. Meets with Telegraph and Telephone Section of A. R. A., Division I.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 1252 Syndicate Trust Building, St. Louis, Mo. Annual meeting, May 10-11, 1933, Jefferson Hotel, Richmond, Va.

RAILWAY TREASURY OFFICERS ASSOCIATION.—L. W. Cox, 1428 Broad Street Station Building, Philadelphia, Pa.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—T. F. Donahoe, Gen. Supvr. Road, Baltimore & Ohio, Pittsburgh, Pa. Annual meeting, September 19-21, 1933, Hotel Stevens, Chicago, Ill.

ST. LOUIS RAILWAY CLUB.—B. W. Frauenthal, Drawer 24, M. P. O., St. Louis, Mo. Meetings temporarily suspended.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York. Meets with A. R. A., Signal Section.

SOCIETY OF OFFICERS, EASTERN ASSOCIATIONS OF RAILROAD VETERANS.—M. W. Jones, Baltimore & Ohio, Mt. Royal Station, Baltimore, Md. Annual meeting, October 7-8, 1933, Scranton, Pa.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—R. G. Parks, A. B. & C. R. R., Atlanta, Ga.

SUPPLY MEN'S ASSOCIATION.—E. H. Hancock, Treasurer, Louisville Varnish Co., Louisville, Ky. Meets with A. R. A., Division V, Equipment Painting Section.

TOOL FOREMEN SUPPLIERS' ASSOCIATION.—E. E. Caswell, Union Twist Drill Co., 11 S. Clinton St., Chicago, Ill. Meets with American Railway Tool Foremen's Association.

TORONTO RAILWAY CLUB.—N. A. Walford, P. O. Box 8, Terminal "A," Toronto. Regular meetings, first Friday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—L. C. Ryan, Oxweld Railroad Service Co., Carbon & Carbide Building, Chicago. Meets with Roadmasters' and Maintenance of Way Association.

TRAVELING ENGINEERS' ASSOCIATION.—W. O. Thompson, 1177 E. 98th St., Cleveland, Ohio.

WESTERN RAILWAY CLUB.—J. H. Nash, Dri-Steam Valve Co., 1101 Peoples Gas Building, Chicago. Regular meetings, third Monday of each month, except June, July, August and September, Hotel Sherman, Chicago.

Equipment and Supplies

FREIGHT CARS

THE UNITED STATES NAVY DEPARTMENT is inquiring for five narrow gage flat cars and three box cars of about 30-tons capacity.

THE UNITED FRUIT COMPANY has placed an order with the Pullman Car & Manufacturing Corporation for 42 fruit cars of 15 tons' capacity, for service on the Santa Marta Railway, Colombia. Inquiry for this equipment was reported in the *Railway Age* of December 24.

SIGNALING

THE DELAWARE & HUDSON has ordered from the General Railway Signal Company materials for the installation of a centralized traffic control system at Whitehall, N. Y. The machine will have four working levers.

THE NEW YORK RAPID TRANSIT CORPORATION has ordered from the General Railway Signal Company 95 dwarf color-light signals, and other material for installation on its subway lines in Liberty and Fulton avenues. The order includes material for electric train stops and for modernizing ten existing switch machines.

MISCELLANEOUS

THE GREAT NORTHERN will reopen its Spokane, Wash., shops on April 3, giving employment to 250 men. These shops have been closed for a month, except for a skeleton force.

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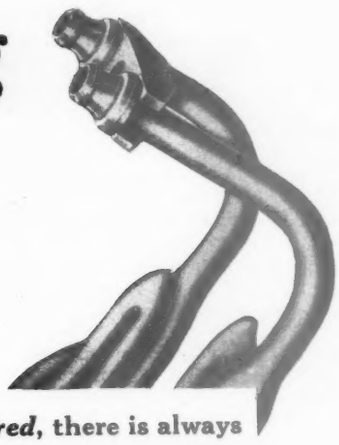
Repairing is Temporary *Rebuilding* is Lasting

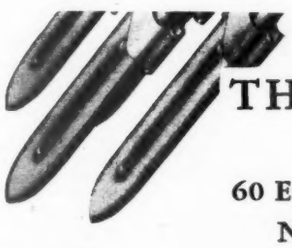


No matter how carefully superheater units are *repaired*, there is always the liability of failure in service and the possibility that, in repairing them, their proportions—their efficiency or capacity, have been adversely affected. In any event, repairing the failed units of a set is no guarantee against others in the set failing soon after the locomotive goes back into service.

Through the Elesco unit remanufacturing service, unserviceable superheater units are *rebuilt*. That is, when they are received at our plant, they are first knocked down, then rebuilt from the serviceable tubing, which has passed our rigid inspection, and additional new tubing needed for complete units. The same manufacturing methods are employed as for new units—the same precision methods, testing and inspection, and they have new bands, supports, bolts and nuts—just like new units.

That is why rebuilding unserviceable units is so lasting . . . there is such a world of difference between repairing failed units and rebuilding them. Rebuilt or remanufactured units have a life equal to that of new units.

Many railroads have units remanufactured as a regular procedure, because it pays big dividends—in years of trouble-free service at full efficiency.



An Elesco Rebuilt Superheater Unit Has Renewed Life for Full Efficiency.

THE SUPERHEATER COMPANY

Representative of American Throttle Company, Inc.

60 East 42nd Street
NEW YORK

ELESCO

Peoples Gas Building
CHICAGO

A 773

CANADA: The Superheater Company, Limited, Montreal

Superheaters - Feed Water Heaters - Exhaust Steam Injectors - Superheated Steam Pyrometers - American Throttles

Supply Trade

The P. & M. Company has moved its New York City office from 225 Broadway to 165 Broadway.

Ralph E. Flanders has been elected president of the **Jones & Lamson Machine Company,** Springfield, Vt., succeeding **James Hartness,** retired, and **K. H. Woolson** has been appointed vice-president in addition to his duties as treasurer.

Conrad N. Lauer, president of the Philadelphia Gas Works, Philadelphia, Pa., and **Robert C. Shields** of Detroit, Mich., who is connected with Fisher & Company, were elected members of the board of directors of the **Baldwin Locomotive Works,** Philadelphia, on March 23.

H. B. Snyder, who has been connected with the **Pilliod Company,** New York, for many years as assistant to the president, and for the past two years stationed at the factory, Swanton, Ohio, in charge of engineering, has resigned. **L. R. Baker** has been appointed mechanical engineer with office at the Swanton works.

John Taliaferro, eastern sales manager of the **Atlantic Creosoting Company,** with headquarters in New York, has been promoted to vice-president in charge of the Savannah (Ga.) plant of this company. **J. C. Postell,** vice-president in charge of the Norfolk (Va.) plant, has been transferred to New York as vice-president in charge of plant operations and sales.

Safety Car Heating & Lighting Company

The Safety Car Heating & Lighting Company, for the year ending December 31, 1932, reported a gross profit before depreciation of $232,736 as compared with a 1931 gross before depreciation of $336,403. The company's already-strong current position was improved last year since the report shows the ratio of current assets to current liabilities to be 62 to 1 as compared with a 46 to 1 ratio on December 31, 1931.

Among the recommendations of the board of directors to be considered at the annual meeting of the stockholders on April 12 is that proposing a new depreciation policy which would result in a write-off of certain intangible assets and in carrying fixed assets at a nominal value of $1. Thus no further depreciation charges would enter annual earnings statements. The plan contemplates the creation of a capital surplus of $4,931,000 by the transfer of that amount from the Capital Stock account, in which latter the no-par value stock would henceforth have a stated value of $50 per share instead of the $100 at which each share has been carried. Against this newly-created capital surplus would be charged $3,702,000 to effect a write-off of the net book value of the Safety Car Heating & Lighting Company's interest in the Pintsch Compressing Company and $248,000 to write-off certain contract rights. Another charge of $456,286 would be credited to earned surplus, thus restoring to the latter, amounts contributed by it in prior years to set up reserves against the book value of the interest in the Pintsch Compressing Company. The reminder of the capital surplus—$524,714—would be transferred to the depreciation reserve and would offset the book value of patents.

Against earned surplus would be debited deferred charges of $329,795 and an item of $42,605 to write off the company's inventory of small tools. A further amount of $2,716,325 would be transferred to the depreciation reserve and would thereby result in reducing the net book value of fixed assets to the nominal figure of $1.

The balance sheet and consolidated surplus account as of December 31, 1932 are published in the report as they would appear after giving effect to these changes. The former lists fixed assets (other than land which is carried at a figure of $153,515) at $9,578,486 against which the reserve for depreciation totals $9,578,485. The consolidated surplus account shows an earned surplus as of December 31, 1932, of $1,729,112 as compared with a figure of $4,361,551 before giving effect to the proposed adjustments.

General Electric Company

The forty-first annual report of General Electric Company for the year 1932 shows profit available for dividends of $14,404,110, equivalent, after dividends of 6 per cent on special stock, to 41 cents per share on 28,845,927 shares of no par value common stock, compared with $40,956,996, or $1.33 per share, on the same number of shares in 1931. Dividends of 60 cents per share on special stock and 55 cents per share on the common stock amounted to $18,439,190 for 1932, resulting in a deficit of $4,035,080, which was taken from surplus. In 1931 dividends of 60 cents per share on special stock and $1.60 per share on common stock amounted to $48,725,262, resulting in a deficit in that year of $7,768,266, which also was charged to surplus.

Orders received during 1932 amounted to $121,725,772, a decrease of 52 per cent from 1931. Sales billed last year were $147,162,291, compared with $263,275,255 in 1931, a decrease of 44 per cent.

A comparison of income and expenses for 1932 with the previous year follows:

	1932	1931
Net sales billed	$147,162,291	$263,275,255
Less: Costs, expenses, and all charges except interest (including plant depreciation amounting to $6,254,717.66 in 1932 and $8,859,062.05 in 1931)	143,532,246	234,884,372
Net income from sales.	$3,630,045	$28,390,883
Income from other sources:		
Associated companies and miscellaneous securities	$7,322,160	$8,657,111
Interest and discount	3,052,087	3,819,280
U. S. Government and other marketable securities	227,039	21,533
Royalties and sundry revenue	487,126	501,422
	$11,088,412	$12,999,346
Total income	$14,718,457	$41,390,229
Less: Interest payments	314,346	433,234
Profit available for dividends	$14,404,111	$40,956,995
Less: 6% cash dividends on special stock	2,575,033	2,575,005
Profit available for dividends on common stock	$11,829,078	$38,381,990
Less: Cash dividends on common stock	15,864,157	46,150,257
Deficit for the year	$4,035,079	$7,768,267

North American Car Corporation

The annual report of the North American Car Corporation shows a net income of $234,510 for 1932, after all charges including interest, depreciation and taxes, as compared with $554,719 in 1931. Normal operations of the company for the year resulted in a profit of $280,508, from which were deducted non-recurring charges of $45,997. Depreciation charges against income were maintained at the same rate as in 1931, the total for 1932 being $893,764. Stockholders at the annual meeting on March 21 voted to change the common stock from no par value to $20 par value, with a resulting credit to surplus of $2,340,421, which is to be used in writing down certain assets of the company and in providing reserves to reduce the value of other assets to a level commensurate with present-day economic conditions. The consolidated income account for 1932 as compared with 1931, follows:

Years ended December 31	1932	1931
Gross income	$3,249,707	$3,826,145
Repairs and cost of sales.	982,198	1,330,014
General and administration expenses	517,943	540,316
Depreciation	893,764	888,010
Interest paid	502,635	549,189
Other expenses	90,154	74,879
Other income	17,495	147,749
Net profit from car operations	280,508	591,486
Losses of subsidiary companies in liquidation	29,531	36,767
Adjustment of charges for prior years	16,467	.....
Net profit for the year	234,510	554,719
Surplus beginning of year	427,446	271,647
Sundry reserves restored to surplus	41,718	.....
Discount on preferred stock re-acquired	144,966	.....
Surplus arising from reduction of common stock from no par value to $20 par value	2,340,421	.....
Loss on securities sold and written off	101,396	.....
Amortization of appreciation	694,885	40,325
Investments and advances to affiliated companies written off	938,361	99,000
Dividends paid	.....	140,622
Experimental and development expense of prior years	179,832	118,972
Reserve against car equipment and plants	1,000,000	.....
Surplus end of year	274,587	427,446

Colonel N. L. Howard, president, in a statement to stockholders said:

"The movement of live poultry in cars for 1932 shows an approximate decrease of 20 per cent as compared with the year 1931, which year also shows a decrease of 9 per cent compared with 1930. These decreases have been brought about by a number of conditions. The use of trucks in the transportation of live poultry has increased very rapidly in the last few years, and the unemployment situation has caused many men who were formerly otherwise occupied to go into the business of raising poultry in close proximity to large consuming centers.

"Due to the large decrease of transportation of perishable products, causing an excess of refrigerator car equipment, the average earnings per car show a slight decrease—the first decrease in the past several years—which was largely brought about because the company did not this year participate in the movement of grapes from California and apples from the Northwest, because of the poor market condition and the surplus of the railroads' equipment. The use of pipe lines for gasoline and a general decrease of 7 per cent in gasoline consumption throughout the year brought about a surplus of tank car equipment."

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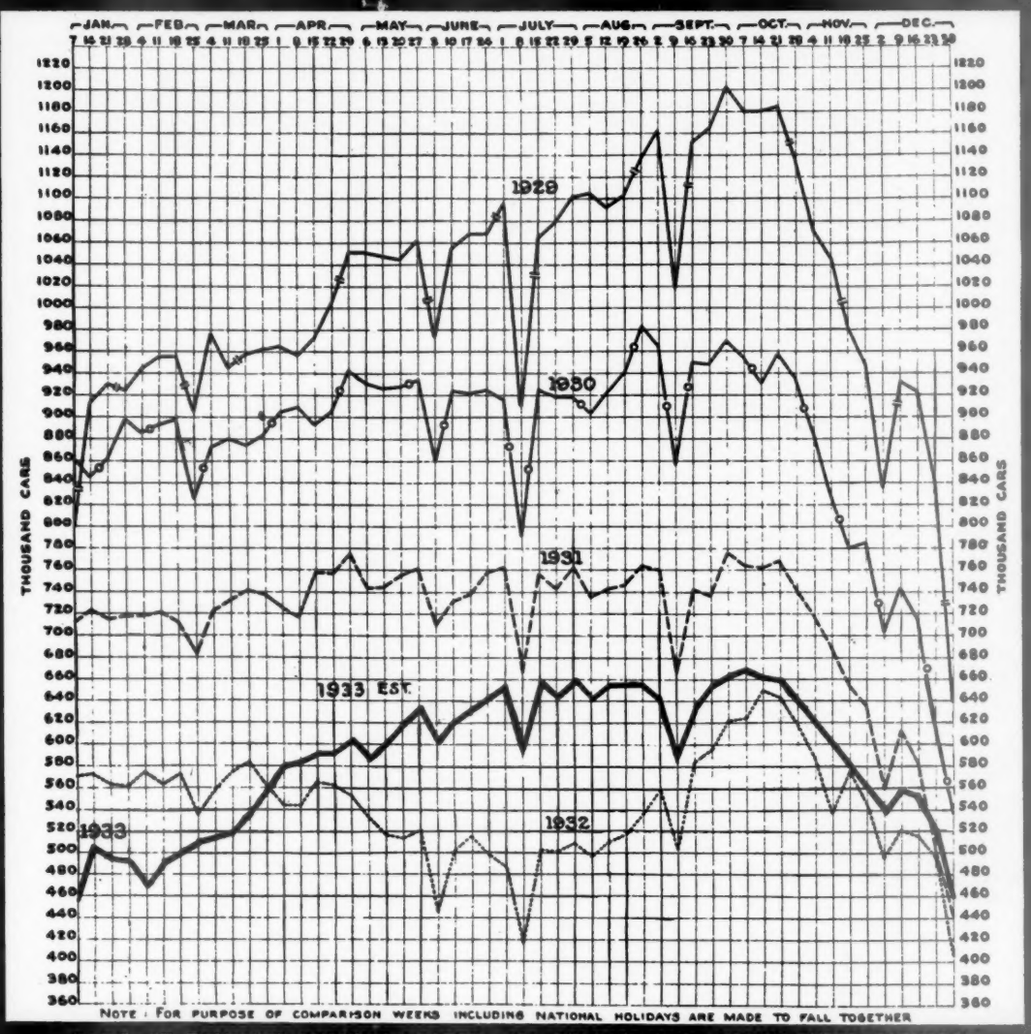
A PROPHECY



CARS OF REVENUE FREIGHT LOADED - ALL COMMODITIES - WEEKS ENDED SATURDAY

MR. John L. Kerr, railroad economist, estimated total carloadings for 1932 at 27,300 000 cars which was only 700,000 cars from the actual figure of 28,000,000 cars. His estimate for 1933 is 31,000,000 cars, or an increase of 17% over 1932. Mr. Kerr arrives at his estimates by studying each week of the previous year and ascertaining what commodities were the big factors in making up freight tonnage. Then by discussing each situation with specialists in that field, a surprisingly accurate comparative estimate is arrived at. The chart reproduced is what Mr. Kerr expects for 1933.

No question but what the recent bank holiday was not taken into consideration in making the 1933 curve, and therefore, 1933 actual will show a sharp dip for March. However, the restored confidence will no doubt be reflected later on in 1933 actual being above the 1933 estimate.

American Locomotive Company

30 Church Street New York N.Y.

OBITUARY

H. G. Barnhurst, middle-west representative of the cement sales department of the Babcock & Wilcox Company, New York, died of heart failure on March 18 in Chicago, at the age of 60 years.

Charles Edward Eveleth, vice-president of the General Electric Company, died at Schenectady, N. Y., on March 25, following an illness of several months. Mr. Eveleth was born in 1876 in India, where his father was a missionary. He was brought to this country to attend school and was graduated from Worcester Polytechnic Institute in 1899. He then entered the testing department of the General Electric Company at Schenectady and after serving in various engineering departments he was made research engineer on submarine work during the war. Upon the completion of this work Mr. Eveleth entered the turbine engineering department, where he served for four years which included two years as executive engineer. In September, 1922, he was appointed assistant manager of the Schenectady works and the following January was made works manager, which position he held until April, 1927, when he became a vice-president and was associated with the management of the manufacturing department. He was transferred in 1929 to the engineering department where he had charge of the designing engineering departments and of the works laboratories attached to each major manufacturing plant. Mr. Eveleth had been interested in civic affairs having served as president of the board of education of Schenectady, also as a member on the board of various civic organizations. He was also a member of the board of trustees of the Worcester Polytechnic Institute and held the honorary degree of doctor of engineering from that institution.

Charles Edward Eveleth

TRADE PUBLICATION

PIPING.—The Air Reduction Sales Company, New York, has issued a 26-page, well-illustrated booklet entitled "Piping—Tailored to Fit," which reviews the advantages of oxy-acetylene welded piping systems, discusses the present art of this method of fabrication, and points out the economies possible.

Construction

BALTIMORE & OHIO.—This company has awarded a contract for passenger stations in connection with grade crossing elimination work at Grasmer and Dongan Hills, Staten Island, N. Y., to the Caye Construction Company, Inc., Brooklyn, N. Y. The estimated cost of the work is approximately $35,000.

DELAWARE & HUDSON.—The New York Public Service Commission has approved an estimate of cost of $137,800 for the elimination of the Main street crossing of this road in Unadilla, Otsego county, N. Y. The estimate of cost does not include land and property damages.

LONG ISLAND.—The New York Public Service Commission has approved plans and specifications and an estimated cost of $20,000, exclusive of land and property damages, for the reconstruction of the highway bridge carrying Jerusalem road over the tracks of the railroad in North Hempstead, Nassau county, N. Y.

NEW YORK, CHICAGO & ST. LOUIS.—See Pennsylvania.

PENNSYLVANIA—A contract has been awarded to the D. W. Thurston Company, Detroit, Mich., for the construction of a bridge to carry this company's tracks across Southfield road near Detroit. This structure, which will have a span of 53 ft., will be of girder construction carried on concrete abutments.

PENNSYLVANIA-NEW YORK, CHICAGO & ST. LOUIS.—The New York Public Service Commission has approved specifications and maps and an estimate of cost of $25,250 for lands and easement rights to be acquired in connection with the elimination of the Brant road crossings of the Pennsylvania and the New York, Chicago & St. Louis in Angola, Erie county, N. Y.

WABASH.—United States District Judge Charles B. Davies at St. Louis, Mo., has authorized the receivers for the Wabash to construct a concrete and steel viaduct to carry a switching track across Market street a short distance east of Vandeventer avenue at St. Louis, when Market street is widened from 60 ft. to 100 ft. This structure, which will replace a short span now in place, will be erected by company forces.

THE GREAT WESTERN OF GREAT BRITAIN has recently announced plans for the acquisition of 5,000 freight cars of 20 tons capacity and for the remodeling of its tie creosoting plant at Hayes, Middlesex.

The new freight cars, which it is estimated, will involve an expenditure of approximately £1,000,000, are expected in large part to be leased for the transportation of coal from mines in South Wales. Plans for the remodeling of the creosoting plant contemplate additions to present facilities which will bring the plant's capacity to 1,400 ties per day.

Financial

ANN ARBOR.—*R. F. C. Loan.*—The Receivers have applied to the Reconstruction Finance Corporation for an additional loan of $365,243 for interest requirements and principal payments on equipment obligations.

DELAWARE, LACKAWANNA & WESTERN.—*Abandonment.*—This company, the Morris & Essex, and the Chester have applied to the Interstate Commerce Commission for authority to abandon the line of the Chester from Succasunna, N. J., to Chester, 6.3 miles.

DENVER & RIO GRANDE WESTERN.—*R. F. C. Loan.*—The Interstate Commerce Commission on March 23 approved an additional loan of $2,250,000 to this company from the Reconstruction Finance Corporation, on its application for $2,500,000, of which $1,230,000 was desired to pay taxes, $819,707 to pay principal and interest of equipment trust notes, and $450,292 to pay mortgage bond interest. The report was passed upon by the whole commission instead of by Division 4 and Commissioners Eastman and Farrell dissented. The commission had previously approved loans amounting to $6,350,000 to this company, which had also been authorized by the R. F. C. although only $2,778,800 had been disbursed by the corporation at the date of its latest report.

ELGIN, JOLIET & EASTERN.—*Annual Report.*—The 1932 annual report of this company shows net deficit after interest and other charges of $2,441,906, as compared with net deficit of $1,625,905 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Average mileage operated	447.08	447.04	+.04
Railway Operating Revenues	$7,764,088	$13,342,163	−$5,578,075
Maintenance of way	962,703	1,884,488	−921,785
Maintenance of equipment	1,870,097	2,794,674	−924,577
Transportation	3,539,586	5,805,064	−2,265,477
Total Operating Expenses	7,173,469	11,323,071	−4,149,602
Operating ratio	92.39	84.87	−7.52
Railway tax accruals	1,195,153	1,304,831	−109,677
Railway operating income	*606,380	713,975	−1,320,355
Equipment and joint facility rents—Net Dr.	410,467	722,386	−311,918
Net Railway Operating Income	*1,016,847	*8,410	−1,008,436
Non-operating income	136,958	211,951	−74,993
Gross Income.	*879,889	203,541	−1,083,430
Rent for leased roads	937,227	932,665	+4,561
Interest on funded debt	500,000	500,000	.....
Net Deficit	2,441,906	1,625,905	+816,001

* Deficit.

GULF, MOBILE & NORTHERN.—*Lease.*—This company has applied to the Interstate Commerce Commission for authority to

Continued on next left-hand page

NOW THERE ARE BETTER STAYBOLTS

NO LONGER need railroad men put up with the limitations of a single kind of staybolt material. « Thanks to the research of Republic metallurgists there are now available alloy steels and irons that develop just the qualities needed for longer staybolt life. « Staybolt materials should be selected and processed to produce the maximum yield point and shock toughness with due regard to the plate materials used. « In Agathon Alloy, Republic has a staybolt material particularly fitted to reduce staybolt costs under your own conditions. Consult with Republic metallurgists on "The Staybolt Question."

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CENTRAL ALLOY DIVISION

REPUBLIC STEEL
CORPORATION
MASSILLON OHIO

ACATHON STEELS

acquire control of the New Orleans Great Northern by lease for 99 years and to operate its property, which is now in receivership.

LOUISVILLE & NASHVILLE.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon that part of its Gate City branch extending from Ruffner Mine No. 2 northeasterly to the end of the branch at Trussville, Ala., 9.4 miles.

MAINE CENTRAL.—*Annual Report.*—The 1932 annual report of this company shows net deficit after interest and other charges of $416,124, as compared with net deficit of $63,386 in 1931. Selected tiems from the Income Statement follow:

	1932	Increase or Decrease
Average mileage operated	1,117.94	-3.46
Railway Operating Revenues	$11,254,771	-$3,635,879
Maintenance of way...	1,711,744	-581,990
Maintenance of equipment	1,852,744	-622,179
Transportation	4,440,269	-1,537,708
Total Operating Expenses	8,673,777	-2,879,972
Operating ratio	77.07	0.52
Net Revenue from Operations	2,580,993	-755,906
Railway tax accruals..	651,543	-328,136
Railway operating income	1,928,888	-427,656
Hire of freight cars—Dr.	79,013	-90,124
Joint facility rents	294,754	+45,726
Net Railway Operating Income	1,550,583	-286,336
Non-operating income.	222,607	+8,323
Gross Income	1,773,191	-278,013
Rent for leased roads..	780,432	+48,800
Interest on funded debt	1,232,057	-19,370
Total Deductions from Gross Income	2,189,316	+74,725
Net Deficit	416,124	+352,738

MARSHALL, ELYSIAN FIELDS & SOUTHWESTERN.— *R. F. C. Loan.*—This company has applied to the Reconstruction Finance Corporation for a loan of $60,000 to liquidate indebtedness.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—*Wisconsin Central Receivers Certificates.*—The Interstate Commerce Commission has authorized the receiver of the Wisconsin Central to issue $250,000 of receivers certificates to be sold at not less than par, the proceeds to be used in the operation, maintenance and improvement of the property.

MISSOURI PACIFIC.—*Receivership Asked.*—Two suits asking for a receiver for this company were filed in the United States District Court at St. Louis, Mo., on March 28 by attorneys representing several hundred shippers. The petitions are based on claims for more than $3,000,000 which the shippers contend is due them in refunds for overcharges plus interest from 1905 to 1913 when a state law increasing rates was being contested. An injunction obtained by the railroads to maintain the rates was dissolved in 1913 and the claims against the Missouri Pacific are made for a refund on freight charges made during the period in which the injunction was effective. A hearing is scheduled to be held before Federal Judge Faris on April 3.

MOBILE & OHIO.—*Abandonment.*—The Interstate Commerce Commission has authorized the Southern Railway to abandon, and the receiver of the Bobile & Ohio to abandon operation of, a branch extending from Okalona, Miss., southwesterly to Calhoun City, 37.3 miles. Residents along the line protested the abandonment and the Commission authorized it only on condition that the Southern offer to sell the line or any part of it to any persons offering to purchase it for continued operation at a price not less than the net salvage value. The decline in traffic which has made the line unprofitable is ascribed to a recession in lumbering activities and to the competition of trucks, rather than to the depression. Taxes paid on the line from January 1, 1927, to September 30, 1932, totaled $94,107.

NEW YORK, NEW HAVEN & HARTFORD.—*Annual Report.*—The 1932 annual report of this company shows net deficit after interest and other charges of $393,047, as compared with net income of $9,179,869 in 1931. Selected items from the Income Statement follow:

	1932	Increase or Decrease
Average mileage operated		
Railway Operating Revenues	$74,973,252	-$25,357,842
Maintenance of way..	9,327,713	-4,647,137
Maintenance of equipment	11,326,896	-3,253,043
Transportation	26,876,298	-7,220,885
Total Operating Expenses	52,985,207	-16,128,516
Operating ratio	70.67	-1.78
Net Revenue from Operations	21,988,045	-9,229,326
Railway tax accruals..	4,800,077	-536,413
Railway operating income	17,155,857	-8,717,153
Hire of freight cars—Dr.	1,822,455	-714,484
Net Railway Operating Income	11,243,367	-7,414,308
Non-operating income.	4,804,929	-1,939,083
Gross Income	16,048,296	-9,353,391
Rent for leased roads.	2,788,874	+5,199
Interest funded debt..	11,650,764	22,452
Total Deductions from Gross Income	16,441,343	+219,524
Net Income	*393,047	-9,572,916

* Deficit.

PEORIA & PEKIN UNION.—*Annual Report.*—The 1932 annual report of this company shows net income after interest and other charges of $87,946, as compared with net income of $39,131 in 1931. Selected items from the Income Statement follow:

	1932	1931	Increase or Decrease
Railway Operating Revenues	$863,639	$1,067,869	-$204,230
Maintenance of way	100,490	139,818	39,327
Maintenance of equipment	93,030	134,916	41,885
Transportation	407,938	558,474	150,536
Total Operating Expenses	735,321	978,699	-243,378
Net Revenue from Operations	128,318	89,170	+39,148
Railway tax accruals	174,154	174,300	-145
Railway operating income	*45,836	*85,130	+39,293
Joint facility rents	283,347	267,887	+15,460
Net Railway Operating Income	219,563	188,730	+30,833
Non-operating income	51,313	32,991	+18,322
Gross Income	270,877	221,721	+49,156
Rent for leased roads	1,500	1,500	.....
Interest on funded debt	176,000	176,000	.....
Total Deductions from Gross Income	182,930	182,590	+340
Net Income	87,946	39,131	+48,815

* Credit.

PENNSYLVANIA.—*Abandonment.*—The Interstate Commerce Commission has authorized the Pittsburgh, Cincinnati, Chicago & St. Louis and the Pennsylvania to abandon that portion ot the Muncie branch extending from Converse, Ind., to Matthews, 26 miles. Motor competition is the reason assigned for the action and, while the Commission states that "there is no doubt that discontinuance of the segment would result in certain inconveniences and losses" to owners of elevators along the line, nevertheless "continued operation would impose a burden" upon the railroad and interstate commerce.

PITTSBURGH & WEST VIRGINIA.—*Securities.*—The Interstate Commerce Commission has authorized this company to pledge as security for notes which it may issue to the Railroad Credit Corporation under Section 20a (9) of the Interstate Commerce Act, its equity in $1,788,000 of its first mortgage 4½ per cent, series B, bonds and $8,047,000 of its general mortgage 6 per cent bonds, now pledged with the Reconstruction Finance Corporation.

ST. LOUIS SOUTHWESTERN.—*Abandonment.*—The Interstate Commerce Commission has authorized the St. L. S. W. of Texas to abandon a 30-mile line extending from Prestridge, Tex., to White City.

SOUTHERN NEW YORK—*R. F. C. Loan.*—Division 4 of the Interstate Commerce Commission has denied approval of this company's application for a loan of $960,029 from the Reconstruction Finance Corporation, a large part of which was requested for the purpose of repaying debts to its proprietary company, stating that the loan assumes the aspect of an industrial, rather than a railroad loan.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.— *Tentative Recapture Report.*—Division 1 of the Interstate Commerce Commission has issued a tentative recapture report finding that this company had excess income amounting to $1,045,581 for the years 1920, 1922, 1923, and 1926, of which $522,790 would be recapturable.

TEXAS & PACIFIC.— *R. F. C. Loan.*—Division 4 of the Interstate Commerce Commission has approved a loan of $700,000 to this company to provide in part for payments on equipment trust certificates.

WABASH.—*R. F. C. Loan.*—The receivers have applied to the Reconstruction Finance Corporation for an additional loan of $3,000,000 for interest requirements and principal of equipment obligations. They had originally applied for $18,500,000 and had already received $14,825,000.

Average Prices of Stocks and of Bonds

	Mar. 28	Last week	Last year
Average price of 20 representative railway stocks..	25.77	25.71	26.45
Average price of 20 representative railway bonds..	54.92	54.17	66.48

Dividends Declared

Chicago Junction.—Common, $2.25, quarterly; preferred, $1.50, quarterly, both payable April 1 to holders of record March 15.

Norfolk & Western.—Adjustment preferred, $1, quarterly, payable May 19 to holders of record April 29.

Southern Railway.—Mobile & Ohio stock trust certificates, $2, payable April 1 to holders of record March 15.

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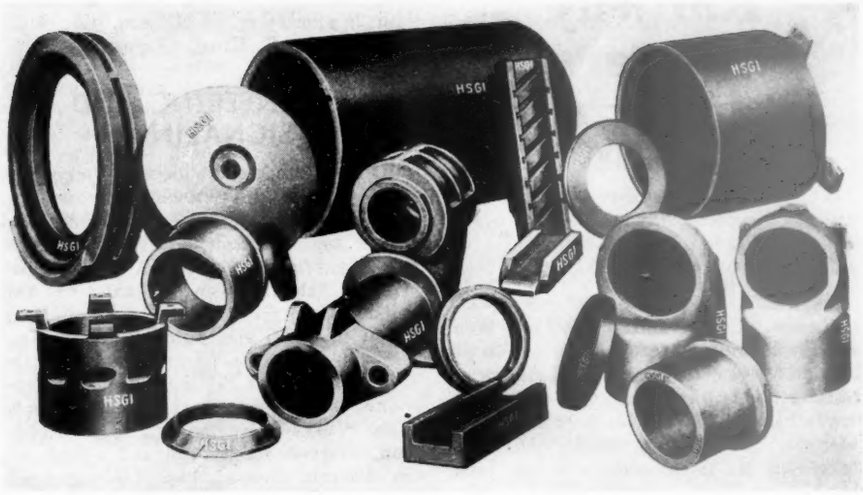

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Railway Officers

EXECUTIVE

W. V. Struby, vice-president of the Missouri Southern, has been elected president, with headquarters as before at Chicago. The position of president has been vacant since 1927.

Warren C. Kendall, who has been manager of the railway relations section of the Car Service Division of the American Railway Association since 1920, with office at Washington, D. C., has been appointed chairman of the Car Service Division, succeeding M. J. Gormley, who has been elected president of the A.R.A. Mr. Kendall was formerly chairman of the Car Service Commission of the A.R.A. which preceded the organization of the Car Service Division. He was born at Pompanoosuc, Vt., May 22, 1877 and was educated at St. Johnsbury Academy and Dartmouth College, from which he was graduated in 1899. He entered railway service in that year as a telegraph operator on the Boston & Maine, after which he became clerk in superintendent's office, clerk in vice-president's office, and chief clerk to assistant general manager and general superintendent of the same road at Boston, Mass. In 1912 he became superintendent of car service and in 1917 superintendent of transportation. In the same year he became a member of the Commission on Car Service of the American Railway Association and in 1917 and 1918 he was manager of the Car Service Section of the Division of Operation of the United States Railroad Administration. In 1920 be became chairman of the Commission on Car Service and later on its reorganization became manager of the railroad relations section of the Car Service Division.

Warren C. Kendall

FINANCIAL, LEGAL AND ACCOUNTING

M. M. Barber has been appointed freight claim agent of the Danville & Western; the Carolina & Northwestern; the High Point, Randleman, Asheboro & Southern; and the Blue Ridge & Yadkin with headquarters at Atlanta, Ga., succeeding **John S. King,** resigned.

ENGINEERING AND SIGNALING

R. F. Raughley, supervisor telegraph and signals of the Pittsburgh division of the Pennsylvania, has been appointed assistant superintendent telegraph and signals, Eastern region. **A. E. Brown,** supervisor telegraph and signals of the Wilkes-Barre division, has been appointed circuit designer, and **John Mooney, Jr.,** assistant supervisor telegraph and signals of the Maryland division, has been appointed supervisor telegraph and signals of the Wilkes-Barre division. **C. B. Freeman,** supervisor telegraph and signals of the Atlantic division, has been appointed inspector telegraph and telephones. **W. A. Swonger,** acting supervisor telegraph and signals of the Philadelphia Terminal division, has been appointed supervisor telegraph and signals of the Atlantic division. **A. M. Crawford,** supervisor telegraph and signals, Panhandle division, has been appointed supervisor telegraph and signals of the Philadelphia Terminal division.

W. W. Marshall, roadmaster on the Missouri-Kansas-Texas, with headquarters at Boonville, Mo., and formerly district engineer at the same point, has been appointed district engineer with headquarters at Parsons, Kan., to replace **F. M. Thomson,** who has resigned to engage in other business.

Mr. Thomson was born on November 12, 1884, at Lockhart, Tex., and was educated at the University of Texas, from which he graduated in 1908. Prior to graduation, Mr. Thomson served a year on construction work with the Trinity & Brazos Valley (now the Burlington-Rock Island), and for a like period with the Oklahoma Central (now part of the Atchison, Topeka & Santa Fe). From June, 1908, to May 1909, he was engineer in charge of construction of the Wichita Falls & Northwestern (now part of the M-K-T), and at the end of this period he left railroad service to engage in road word in Caldwell county, Tex. In 1909, Mr. Thomson entered the service of the Southern Pacific, where he was employed on maintenance work until 1917, when he went with the Katy as division engineer at Parsons, Kan., later being transferred to Sedalia, Mo. In 1919 he was appointed district engineer on the Wichita Falls & Northwestern at Wichita Falls, Tex., and in the following year he was appointed to the same position on the Katy at Muskogee, Okla., later being transferred to Denison, Tex., and to Parsons.

C. P. Richardson, engineer of track elevation of the Chicago, Rock Island & Pacific, has been appointed engineer of water service, with headquarters as before at Chicago, succeeding **Paul M. La Bach,** who has retired. The position of engineer of track elevation has been abolished. Mr. Richardson was born on December 27, 1882, at Concord, N. H., and graduated from Dartmouth College in 1907. He first entered railway service with the Missouri Pacific as an assistant on the engineering corps, later holding the position of assistant division engineer and investigator on special work in the office of the chief engineer at St. Louis, Mo. In August, 1912, Mr. Richardson entered the service of the Rock Island as assistant engineer on track elevation at Chicago, where he was appointed engineer of water service in November, 1918. In the following year Mr. Richardson was assigned to the chief engineer's office as assistant engineer on special assignment, and in February, 1920, he was appointed division engineer of the Chicago Terminal division. In September, 1921, he was appointed engineer of track elevation and held this position until his recent appointment.

C. P. Richardson

TRAFFIC

W. L. Schneider, commercial agent of the Litchfield & Madison, with headquarters at St. Louis, Mo., has been promoted to the newly-created position of general agent at Chicago.

Samuel H. Dare, general western freight agent of the Atlantic Coast Line will retire effective April 1, and **V. C. Baughn** has been appointed to succeed him, with headquarters at Chicago.

H. G. Christianson, district freight representative for the Baltimore & Ohio and the Alton at Minneapolis, Minn., has been promoted to northwestern freight agent of the B. & O., with the same headquarters, succeeding **G. M. Campbell,** who has been appointed to the newly-created position of assistant general freight agent, at Washington, D. C.

John H. VanWie has been appointed division passenger agent of the Delaware, Lackawanna & Western, with headquarters at Scranton, Pa., succeeding **Charles B. Tinsman,** retired. **Robert H. Taylor,** city passenger agent at Buffalo, N. Y., has been transferred to Newark, N. J., succeeding Mr. VanWie, and the position of city passenger agent at Buffalo has been abolished.

H. J. Nelson, recently appointed general freight agent of the Central of New Jersey, with headquarters at New York, was born at Hellertown, Pa., on January 4, 1876. Mr. Nelson entered railroad serv-

ice in 1894, as telegraph operator with the Pennsylvania, and in 1897, he became connected with the Central of New Jersey in a similar capacity. In 1898 he was appointed extra agent, and in 1900 ticket agent and traveling auditor. From 1903 to 1916, he served as freight agent, and in 1916 he was appointed general eastern and foreign freight agent at New York, the position he held until his recent appointment.

PURCHASES AND STORES

M. B. Bowman has been appointed general storekeeper of the New York, Chicago & St. Louis, with headquarters at Lima, Ohio.

OBITUARY

Peter W. Heroy, formerly general eastern passenger agent of the Central of New Jersey, died on March 21. He was 81 years old.

J. L. Morecock, assistant treasurer and superintendent of insurance of the Seaboard Air Line, died at Norfolk, Va., on March 13, following an operation.

Michael M. O'Connor, southwestern freight and passenger agent for the Seaboard Air Line, with headquarters at New Orleans, La., died in that city on March 19, after 36 years service with the Seaboard Air Line.

Edgar Mark Williams, formerly vice-president, traffic, of the Adams Express Company, and advisor to the United States Railroad Administration, specializing in the organization of the express and baggage departments, died in New York on March 22, after an illness of six weeks. He was 59 years old.

Roe R. Hobbs, superintendent of telegraph for the Louisville & Nashville, died at Louisville, Ky., on March 21. Mr. Hobbs was born at Athertonville, Ky., on July 26, 1872, and received his education at the public and technical schools of Louisville. He entered railroad service in 1890, with the L. & N., and for the last 19 years served as superintendent of telegraph for that road.

Annual Report

Canadian Pacific Railway Company

FIFTY-SECOND ANNUAL REPORT

OF THE

DIRECTORS OF THE CANADIAN PACIFIC RAILWAY COMPANY
YEAR ENDED DECEMBER 31, 1932.

To the Shareholders:

The accounts of the Company for the year ended December 31, 1932, show the following results:—

Gross Earnings		$123,936,713.77
Working Expenses (including all taxes)		103,846,729.16
Net Earnings		$20,089,984.61
Special Income		4,537,425.72
		$24,627,410.33
Deduct Fixed Charges		23,619,529.45
Surplus		$1,007,880.88
Contribution to Pension Fund		750,000 00
Balance transferred to Surplus Revenue Account		$257,880.88
Half-yearly dividend on Preference Stock of 2 per cent., paid October 1, 1932		$2,745,138.42

SPECIAL INCOME FOR YEAR ENDED DECEMBER 31, 1932

Net Revenue from Miscellaneous Investments (Page 20)	$37,450.00
Interest on Deposits, Interest and Dividends on Other Securities, Exchange, and results of Separately Operated Properties	2,962,782.31
Net Earnings Ocean and Coastal Steamship Lines	1,034,354.28
Net Earnings Commercial Telegraph and News Departments, Hotels, Rentals and Miscellaneous	502,839.13
	$4,537,425.72

Earnings and Expenses

Your directors regret that the accounts again show a decline in net revenue. The following table of comparison will show the progressive decline of gross and net income of the railways of your Company since 1928. For the purposes of this comparison the figures for the years prior to 1932 have been restated to include the operations of the subsidiary steam railways not included in railway accounts prior to that year.

Year	Gross Earnings	Working Expenses (Including taxes)	Net Earnings
1928	$241,978,461.33	$189,028,331.53	$52,950,129.80
1929	223,320,906.54	178,406,920.47	44,913,986.07
1930	190,100,272.08	151,074,420.16	39,025,851.92
1931	147,846,118.93	122,421,352.43	25,424,766.50
1932	123,936,713.77	103,846,729.16	20,089,984.61
Decrease from 1928	118,041,747.56	85,181,602.37	32,860,145.19

It will be seen that the recession of gross income in the period has been $118,041,747.56 or 48.78%. This may be attributed entirely to the trade depression throughout the world, in which your Company has merely shared the fate of all industries. No possible effort has been spared to maintain and develop traffic, but it will be appreciated that gross earnings, except within very narrow limits, are beyond control of the management.

It will be noted also that working expenses have been steadily reduced, the total reduction for the period being $85,181,602.37, or 45.07%, but it will be appreciated that the necessity of maintaining the property and of providing adequate public service set a limit beyond which reductions cannot be carried. The greater part of the reduction in expenses which every year has shown, can be ascribed to the policy of economy and retrenchment instituted by your directors soon after the trade depression made its appearance. Following, as it did, upon the economies of previous years, the reduction in working expenses in 1932 of $18,574,623, or 15.17% below those of the preceding year as against a reduction in gross earnings of $23,909,405, or 16.17%, must be regarded as gratifying. It is gratifying also to be able to state that this result was attained without impairment of the property, or detriment to the public service. The working expenses for the year, including all taxes, amounted to 83.79 per cent. of the gross earnings, as compared with 82.80 per cent. in 1931. Excluding taxes, the ratio of working expenses to gross earnings was 80.42 per cent. and in 1931, 80.01 per cent.

As a result of improvements in car and train tonnage, increase in the speed of freight trains, and saving in fuel consumption and overtime payments, the train cost of hauling one thousand tons of freight one mile was reduced to $1.12 as compared with $1.23 in 1931. In the maintenance of rolling stock the policy of working the main shops for limited periods in accordance with service requirements was continued, and it is satisfactory to be able to state that 93.3% of the Company's freight cars and 84.7% of its freight and passenger locomotives are in serviceable condition as compared with 87.4% and 71.3% respectively on Class 1 railroads of the United States. With the lower cost of materials and supplies, a reduced scale of wages, and favourable weather conditions during the year, the Company was able to maintain road and structures at $2,890,000 less than in 1931. It was considered also that a severe cut could be made in advertising and other traffic expenses, and a large saving was made in these items.

The ten per cent. reduction applied to the majority of the payrolls in 1931 was extended early in the year to the remainder of the payrolls, following negotiations with the employees affected, and on October 1, an additional fifteen per cent. reduction in the salary of the President and fees of the directors, and an additional ten per cent. reduction in salaries of officers and employees in supervisory positions were applied. Your directors took steps also toward the application of the additional ten per cent. reduction to other classes, and negotiations with employees to be affected are now in progress. When these are effective in accordance with the Company's proposal, the additional reductions will, on the basis of the payrolls for 1932, represent a saving of approximately $7,500,000 per annum.

As a result of investigations concluded toward the end of the

[Advertisement]

year, a further consolidation of official positions and reorganization of clerical forces have been made, which it is believed will result in a saving of approximately $1,500,000 per annum.

Your directors cannot conclude this recital of the Company's affairs without paying tribute to the loyalty and zeal of all officers and employees, and their willingness to accept all changes which the conditions of the times required.

Special Income

What has been said in regard to rail income and expenses applies in all respects to Special Income Account. In steamship operation the results were somewhat better than last year, but hotels and telegraphs both show a heavy decline. There was also a decrease in revenue from investments, owing in large part to the fact that no dividend was declared by the Consolidated Mining and Smelting Company, Limited, during the year. Interest on deposits declined, owing to reduction of rate and reduction of amount on deposit.

Land Sales

Sales of agricultural lands for the year were 59,581 acres for $803,663.52, an average of $13.49 per acre. Included in these areas were 5,910 acres of irrigated land which brought $42.15 per acre, the remainder averaging $10.33 per acre.

Accounts

In view of the unsatisfactory results of controlled lines in the United States an appropriation of $4,000,000 has been made from surplus as a reserve to provide for the possible future writing down of investments in these properties.

A provision of $500,000 from the current year's income account for steamship replacement, was deemed sufficient in view of the amount already standing to the credit of the reserve for that purpose.

The unemployment situation having shown no improvement during the past year, the Company continued to lend aid to the extent of anticipating repair work. The expense in connection therewith is being taken into the Company's income accounts at the time the work would in ordinary course have been performed.

From time to time in past years, your Company, either as part consideration for its acquisition of control of certain separately operated subsidiaries, or for their subsequent financing, entered into certain guarantees of their securities. A table showing the extent of your Company's obligations arising from these transactions is included in the financial statements of the report. Statements showing surplus revenue account, land surplus account and changes in property investment are also included.

Dividends

With the greatest regret, your directors must announce that the general situation, and the result of the year's operation, preclude the possibility of any further distribution for the year 1932 to either Preference or Ordinary Stockholders. The excellent wheat crop, the fourth largest in ten years, gave promise of an important increase in gross earnings, but the decline in the market which commenced early in October and continued to the end of the year, interrupted its movement, with the result that such traffic was only slightly better than in the corresponding period of 1931. With this decline in the basic industry of the country disappeared also the hope which had been entertained of an increase of general traffic. Your directors can only continue to exhort patience until the turn of the tide.

Capital Expenditures

In anticipation of your confirmation, your directors authorized capital appropriations, in addition to those approved at the last Annual Meeting, aggregating for the year 1932, $426,730, and ask your approval of expenditures on capital account during the present year of $1,609,787, of which amount $1,310,500 represents the cost of materials already purchased and in stock. The following are the particulars of the principal items:

Replacement and enlargement of structures in permanent form	$ 137,667
Extensions to existing buildings	5,720
Ties, tie plates, rail anchors, ballasting, ditching and miscellaneous roadway betterments	1,343,005
Replacement of rail in main and branch line tracks with heavier section	2,787
Additional terminal and side track accommodation	16,368
Improving coaling and watering facilities	2,560
Installation of automatic signals	4,400
British Columbia Coast Steamships	1,000
Additions and betterments to equipment	77,266

The remainder is required for miscellaneous works to improve facilities and effect economies over the whole system.

Issue of Securities

There were issued and sold during the year $12,500,000 Convertible Ten Year 6% Collateral Trust Bonds, secured by pledge of Four Per Cent. Consolidated Debenture Stock of the par value of $17,000,000, the holders being given the right at any time during the period ending September 15, 1937, to convert their bonds into shares of the Ordinary Capital Stock of the Company in the ratio of four shares to One Hundred Dollars principal amount of the bonds.

Owing to financial market conditions no Preference Stock or Consolidated Debenture Stock was sold during the year, your directors deeming it advisable that the Company's requirements should be met by short term loans. These loans amount to $30,000,000, secured by pledge of $40,000,000 Consolidated Debenture Stock, and $5,000,000 bonds of Lucerne-in-Quebec Community Association.

For the purpose of meeting maturing obligations and providing for capital and other requirements of the Company, your directors recommend that your authority be given to the issue of Consolidated Debenture Stock, to be disposed of by way of sale or by pledge as security for loans, as market conditions and circumstances may warrant.

Minneapolis, St. Paul and Sault Ste. Marie Railway

Business conditions throughout the territory in which your subsidiary the Minneapolis, St. Paul and Sault Ste. Marie Railway Company operates were at a similar low ebb as in Canada. Its gross earnings were only $12,596,141, the lowest since 1908, although more than eight hundred additional miles of railway were in operation. To meet the deficit the Minneapolis, St. Paul and Sault Ste. Marie Railway Company borrowed $6,117,361 from the Reconstruction Finance Corporation and the Railway Credit Corporation of the United States, your Company guaranteeing the payment of the loans to the extent of $2,000,000.

For some years the Wisconsin Central has not been earning its fixed charges, and recently has failed to earn even operating expenses. As owner of practically all of its capital stock and a large amount of its bonds, and guarantor of some of its obligations, the Minneapolis, St. Paul and Sault Ste. Marie Railway Company met these deficits in order to keep the line in operation. Toward the end of the year, being unable to make further advances, the Minneapolis, St. Paul and Sault Ste. Marie Railway Company suffered the line to go into receivership. It is, however, continuing to operate the railway for the receiver.

Agreements

Your confirmation and approval will be asked of the following agreements made by your directors during the past year:

1. Agreement dated November 15, 1932, between your Company of the one part and The Canadian Northern Railway Company and Canadian National Railway Company of the other part, whereby The Canadian Northern Railway Company and Canadian National Railway Company are given the joint use and enjoyment of the portions of your line between Youngstown and Coronation, the Coronation Terminals and between Coronation and Alliance, all in the Province of Alberta, on the basis of paying one-half the interest charge on capital account and a wheelage proportion, with a minimum of 20%, of maintenance and operation expenses.

2. Agreement dated November 15, 1932, between The Canadian Northern Railway Company and Canadian National Railway Company of the one part and your Company of the other part, whereby your Company acquired the right to use a portion of the main line and the passenger station and freight shed of the Canadian National at Youngstown, Alberta, on the basis of paying one-half the interest charge on capital account and a wheelage proportion, with a minimum of 20%, of the maintenance and operation expenses.

3. Agreement dated November 15, 1932, between The Canadian Northern Railway Company and Canadian National Railway Company of the one part and your Company of the other part, whereby your Company acquired the right to use the line of the Canadian National from North Battleford through Hamlin to Glenbush and from Glenbush to Medstead, all in the Province of Saskatchewan, on the basis of paying one-half the interest charge on capital account and a wheelage proportion, with a minimum of 20%, of the maintenance and operation expenses.

Royal Commission on Transportation

The Royal Commission on Transportation, to the appointment of which reference was made last year, concluded its work in September. Its Report, which has been widely published, contains the results of an exhaustive study of all phases of the subject. Of necessity, owing to their place in the transportation field, the Report deals mainly with the development and operation of the Government Railways and those of your Company since 1922,

[Advertisement]

CANADIAN PACIFIC RAILWAY COMPANY

GENERAL BALANCE SHEET, DECEMBER 31, 1932

ASSETS

PROPERTY INVESTMENT:		
Railway, Rolling Stock Equipment, Lake and River Steamers and Hotels	$871,789,071.34	
Ocean and Coastal Steamships	116,408,253.10	
Acquired Securities (Cost)	178,868,015.71	
		$1,167,065,340.15
ADVANCES TO CONTROLLED PROPERTIES AND OTHER INVESTMENTS		14,510,776.25
INVESTMENTS AND AVAILABLE RESOURCES:		
Deferred Payments on Lands and Townsites	$50,870,516.27	
Provincial and Municipal Securities	792,721.29	
Miscellaneous Investments, (Page 20), Cost	33,303,263.64	
Assets in Lands and Properties	55,795,581.95	
		140,762,083.15
INSURANCE PREMIUMS PAID IN ADVANCE		216,669.01
WORKING ASSETS:		
Material and Supplies on Hand	$20,195,758.95	
Agents' and Conductors' Balances	3,986,902.23	
Net Traffic Balances	584,308.67	
Imperial, Dominion and United States Governments, Accounts due for Transportation, etc.	859,200.64	
Miscellaneous Accounts Receivable	10,301,288.14	
Special Deposits	1,710,194.85	
Cash in Hand	15,173,490.69	
		52,811,144.17
		$1,375,366,012.73

NOTE:
The Balance Sheet is expressed in Canadian Currency—Currencies other than Canadian having been converted at the par of exchange.

LIABILITIES

CAPITAL STOCK:			
Ordinary Stock	$335,000,000.00		
Four Per Cent Preference Stock	137,256,921.12		
			$472,256,921.12
FOUR PER CENT CONSOLIDATED DEBENTURE STOCK	$455,911,548.74		
LESS: Collateral as below*	164,500,000.00		
			291,411,548.74
TEN YEAR 5% COLLATERAL TRUST GOLD BONDS (1934)*			12,000,000.00
TWENTY YEAR 4½% COLLATERAL TRUST GOLD BONDS (1946)*			20,000,000.00
TWENTY-FIVE YEAR 5% COLLATERAL TRUST GOLD BONDS (1954)*			30,000,000.00
THIRTY YEAR 4½% COLLATERAL TRUST GOLD BONDS (1960)*			25,000,000.00
CONVERTIBLE TEN YEAR 6% COLLATERAL TRUST BONDS (1942)*			12,500,000.00
TWENTY YEAR 4½% SINKING FUND SECURED NOTE CERTIFICATES (1944)	$30,000,000.00		
LESS: Purchased by Trustee and cancelled	8,464,200.00		
	21,535,800.00		
LESS: Amount held by Trustee	12,242.10		
			21,523,557.90
MORTGAGE BONDS:			
Algoma Branch 1st Mortgage 5 per cent			3,650,000.00
Lacombe & Blindman Valley Railway 1st Mortgage 5 per cent			273,700.00
SHORT TERM NOTES*			30,000,000.00
EQUIPMENT OBLIGATIONS	$47,850,000.00		
LESS: Securities on hand with Trustee	6,000,000.00		
			41,850,000.00
CURRENT:			
Audited Vouchers		4,722,604.20	
Pay Rolls		2,481,233.04	
Miscellaneous Accounts Payable		5,717,741.68	
			12,921,578.92
ACCRUED FIXED CHARGES			1,389,678.33
DEFERRED:			
Dominion Government Unemployment Relief			1,447,222.71
RESERVES:			
For Equipment Replacement		9,419,677.75	
For Steamship Replacement		27,780,437.10	
For Contingencies (net)		2,785,433.21	
For Investments		4,000,000.00	
For Exchange on Working Assets and Current Liabilities		727,790.81	
			44,713,338.87
PREMIUM ON CAPITAL STOCK SOLD (LESS DISCOUNT ON BONDS AND NOTES)			66,390,903.49
LAND SURPLUS			120,967,867.17
SURPLUS REVENUE			167,069,695.48
			$1,375,366,012.73

L. B. UNWIN, Comptroller.

AUDITOR'S CERTIFICATE.
We have examined the Books and Records of the Canadian Pacific Railway Company for the year ending December 31, 1932, and having compared the above Balance Sheet therewith, we certify that, in our opinion it is properly drawn up so as to show the true financial position of the Company at that date, and that the statements of Income and Surplus Revenue correctly set forth the result of the year's operations.

PRICE, WATERHOUSE & CO.,
Montreal, March 10, 1933. Chartered Accountants, (England).

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when the various government lines were consolidated. In its conclusions, the Commission pronounced in favour of the continuance of competition between the two undertakings, mitigated as to some of its effects, by co-operative effort. It was recommended that a statutory duty should be imposed upon them to "adopt as soon as practicable such co-operative measures, plans and arrangements as shall, consistent with the proper handling of traffic, be best adapted to the removal of unnecessary or wasteful services or practices, to the avoidance of unwarranted duplication in services or facilities, and to the joint use and operation of all such properties as may conveniently and without undue detriment to either party, be so used."

To enforce this duty, the Commission recommended that Arbitral Tribunals be set up for each occasion, composed of the Chief Commissioner of the Board of Railway Commissioners and of one representative of each of the two Railways, with the addition, if requested by either party in matters of major importance, of two additional members nominated by the Exchequer Court of Canada; the decision of a Tribunal to be final and binding, except on questions involving jurisdiction. Among the subjects over which the Arbitral Tribunals are to have jurisdiction are the following:

(a) Joint use of terminals.
(b) Running rights and joint use of tracks where there are actual or functional duplications, or where such may be avoided.
(c) Control and prohibition in respect of the construction of new lines and provision of facilities and additional services where no essential need of the public is involved.
(d) The joint use of facilities where this would promote economy or permit the elimination of duplicating or unremunerative services or facilities.
(e) Abandonment of lines, services or facilities.
(f) Pooling of any part or parts of freight traffic or of passenger traffic.
(g) Things necessarily incidental to the above enumerated matters.

It having been announced in the Speech from the Throne at the opening of the parliamentary session in October, that a Bill would be introduced by the Government to give effect to the recommendations of the Royal Commission, your directors took early occasion to present to the Government and to Parliament their views upon the subject. Accompanying this report will be found a transcript of a statement which, by direction of your directors, was made to the Standing Committee on Railways, Telegraphs and Harbours of the Senate of Canada on November 17th, in which these views are set forth at length.

It will be noted that it is the feature of compulsory arbitration of differences upon co-operative measures to which your directors took exception, since such measures necessarily involve questions of control and administration of the Company's undertaking. With the principle of co-operation on a voluntary basis your directors are in hearty accord, and, to give it the fullest effect, your directors and officers have been in steady conference with the directors and officers of the Government Railways to devise and agree upon measures which will be productive of mutual economies.

Stock Holdings

The holdings of the Ordinary and Preference Stocks of the Company in December, 1932, were distributed as follows:

	ORDINARY		PREFERENCE		Percentage of Ordinary and Preference combined
	No. of holders	Percentage of Stock	No. of holders	Percentage of Stock	
Canada	35,101	19.50	87	.49	13.88
United Kingdom and other British	21,585	46.29	27,176	97.81	61.53
United States	16,492	28.03	31	.57	19.90
Other Countries	4,722	6.18	188	1.13	4.69
	77,900		27,482		

Retiring Directors

The undermentioned directors will retire from office at the approaching Annual Meeting. They are eligible for re-election:

MR. E. W. BEATTY
MR. W. A. BLACK
HON. F. L. BEIQUE, K.C.
RT. HON. LORD SHAUGHNESSY, K.C.

For the Directors,

E. W. BEATTY,
President.

MONTREAL, March 13, 1933.

[Advertisement]

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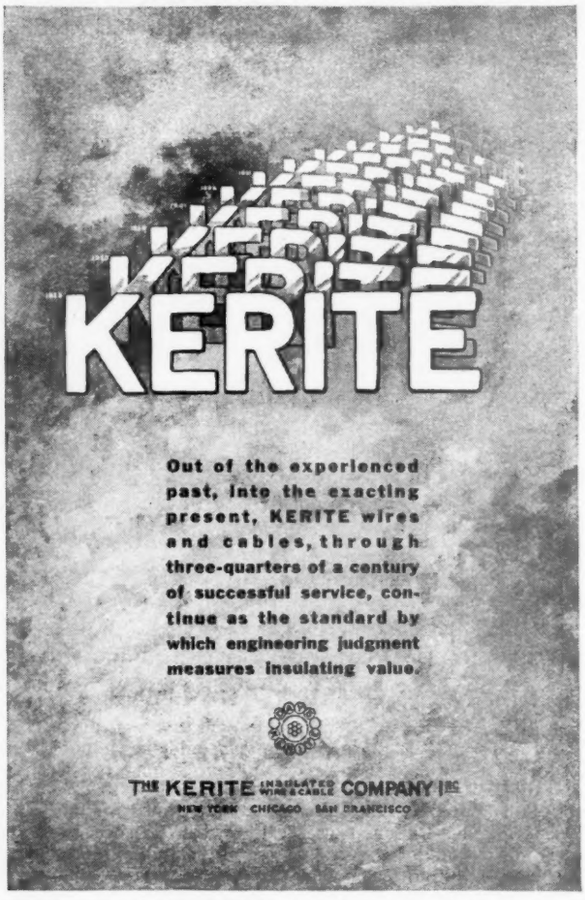
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